Go To Table Of Contents

# M9 / M9D
# M11 / M11D

## -001 thru -019

Self-Contained Steam Sterilizer

To purchase a printed copy of this manual, click on the "Place Order" button below.

Place Order

Serial Number Prefixes:
M9 [CZ, DA, DB, DX, DY, FK, LA, FL, OM]
M9D [FF, FG]
M 11 [ES, ET, FP, FR, GB. NP]
M11D [GC, GD]

NO LONGER IN PRODUCTION
Some service parts may not be available for this product!



FOR USE BY MIDMARK TRAINED TECHNICIANS ONLY



Part No. 004-0372-00 Rev. F (1/01/08)

Go To Table Of Contents

# TABLE OF CONTENTS


**Section/Paragraph** **Page**

IMPORTANT INSTRUCTIONS
General Safety Instructions ..... iii
Safety Alert Symbols ..... iii
Warranty Instructions ..... iii

SECTION I GENERAL INFORMATION
1.1 Model / Serial Number Location ..... 1-1
1.2 Specifications ..... 1-1
1.3 Description of Normal Operation ..... 1-2
1.4 Ordering Parts ..... 1-3
1.5 Special Tools ..... 1-4

SECTION II TESTING AND TROUBLESHOOTING
2.1 Operational Test ..... 2-1
2.2 Troubleshooting Procedures ..... 2-1

SECTION III SCHEDULED MAINTENANCE
3.1 Scheduled Maintenance ..... 3-1

SECTION IV MAINTENANCE/SERVICE INSTRUCTIONS
4.1 Safety Precautions ..... 4-1
4.2 Top Cover Removal / Installation ..... 4-1
4.3 Right Hand Side Panel Removal / Installation ..... 4-1
4.4 Left Hand Side Panel Removal / Installation ..... 4-2
4.5 Back Panel Removal/Installation ..... 4-3
4.6 Base Inspection Cover Removal / Installation ..... 4-3
4.7 Bellows Assembly Removal / Installation ..... 4-4
4.8 Condensing Tank Water Level Sensor Removal / Installation ..... 4-5
4.9 Temperature Sensor Assembly Removal / Installation ..... 4-6
4.10 Pressure Vessel Water Level Sensor Removal / Installation ..... 4-6
4.11 Vent Solenoid Removal / Installation ..... 4-7
4.12 Fill Solenoid Removal / Installation ..... 4-9
4.13 Control PC Board Removal / Installation ..... 4-10
4.14 Door Switch Removal / Installation ..... 4-13
4.15 Pulse Solenoid Removal / Installation ..... 4-13
4.16 Thermostat Removal / Installation ..... 4-14
4.17 Wire Tray Rack and Tray Plate Removal / Installation ..... 4-15

**Section/Paragraph** **Page**

4.18 Heating Element and Gasket Removal / Installation ..... 4-15
4.19 Filter Removal / Installation ..... 4-16
4.20 Door Gaskets Removal / Installation ..... 4-17
4.21 Display PC Board Removal / Installation ..... 4-17
4.22 Condensing Tank Assembly Removal / Installation ..... 4-18
4.23 Pressure Relief Valve Removal / Installation ..... 4-19
4.24 Pressure / Temperature Potentiometers Adjustments ..... 4-20
4.25 Display PC Board Lamp / Display / Button Check ..... 4-23
4.26 Pressure Relief Valve Check ..... 4-24
4.27 Dry Cycle Dip Switches Adjustment ..... 4-25
4.28 M9 / M11 Door Opening Test ..... 4-26

SECTION V SCHEMATICS AND DIAGRAMS
5.1 Wiring Diagrams ..... 5-1
5.2 Flow Diagram ..... 5-11
5.3 Pressure / Temperature Chart ..... 5-12

SECTION VI PARTS LIST
6.1 Description of Bullets ..... 6-1
6.2 Torque Specifications and Important Assembly Notes ..... 6-1


**NOTE:** *The Parts List in this manual is divided into two sections [**M9 / M9D** & **M11/M11D**]. Verify model and refer to appropriate section.*


**M9 / M9D Parts List**
M9 Component / Page Cross-Reference ..... 6-2
M9D Component / Page Cross-Reference ..... 6-3
Main Enclosure Components ..... 6-4*
Plumbing and Sensor Components ..... 6-5*
Pressure Vessel Components ..... 6-6*
M9 Manifold Components ..... 6-7*
M9D Manifold Components ..... 6-8*
Electrical Components ..... 6-9*
M9 Control PC Board ..... 6-10*
M9D Control PC Board ..... 6-11
M9 Labels and Decals ..... 6-12
M9D Labels and Decals ..... 6-13
Printer Components ..... 6-14
Racks, Trays, and Cleaner ..... 6-15*
Packaging ..... 6-16


(*) Indicates that there has been a serial number break for the illustration and that there are additional point page(s) following the original page.

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

# TABLE OF CONTENTS

**Section/Paragraph** **Page**

SECTION VI PARTS LIST - continued

**NOTE:** *The Parts List in this manual is divided into two sections [**M9 / M9D** & **M11/M11D**]. Verify model and refer to appropriate section.*


**M11 / M11D Parts List**

M11 Component / Page Cross-Reference ..... 6-17
M11D Component / Page Cross-Reference ..... 6-18
Main Enclosure Components ..... 6-19*
Plumbing and Sensor Components ..... 6-20*
Pressure Vessel Components ..... 6-21*
M11 Manifold Components ..... 6-22*
M11D Manifold Components ..... 6-23*
Electrical Components ..... 6-24*
M11 Control PC Board ..... 6-25*
M11D Control PC Board ..... 6-26
M11 Labels and Decals ..... 6-27
M11D Labels and Decals ..... 6-28
Printer Components ..... 6-29
Racks, Trays, and Cleaner ..... 6-30*
Packaging ..... 6-31

COMMENTS ..... 7-1
FAX ORDERING FORM ..... 7-2


© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

# IMPORTANT INSTRUCTIONS

## General Safety Instructions

**Safety First: The primary concern of Midmark Corporation is that this** sterilizer is maintained with the safety of the patient and staff in mind. To assure that services and repairs are completed safely and correctly, proceed as follows:

(1) Read this entire manual before performing any services or repairs on this sterilizer.

(2) Be sure you understand the instructions contained in this manual before attempting to service or repair this sterilizer.

## Safety Alert Symbols

Throughout this manual are safety alert symbols that call attention to particular procedures. These items are used as follows:

**DANGER**

**A DANGER is used for an imminently hazardous operating procedure, practice, or condition which, if not correctly followed, will result in loss of life or serious personal injury.**

**WARNING**

**A WARNING is used for a potentially hazardous operating procedure, practice, or condition which, if not correctly followed, could result in loss of life or serious personal injury.**

**CAUTION**

A CAUTION is used for a potentially hazardous operating procedure, practice, or condition which, if not correctly followed, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

**EQUIPMENT ALERT**

An EQUIPMENT ALERT is used for an imminently or potentially hazardous operating procedure, practice, or condition which, if not correctly followed, will or could result in serious, moderate, or minor damage to unit.

**NOTE**

A NOTE is used to amplify an operating procedure, practice or condition.

## Warranty Instructions

Refer to the Midmark "Limited Warranty" printed in the Installation and Operation Manual for warranty information. Failure to follow the guidelines listed below will void the warranty and/or render the M9 sterilizer unsafe for operation.

- In the event of a malfunction, do not attempt to operate the sterilizer until necessary repairs have been made.
- Do not attempt to disassemble sterilizer, replace malfunctioning or damaged components, or perform adjustments unless you are one of Midmark's authorized service technicians.
- Do not substitute parts of another manufacturer when replacing inoperative or damaged components. Use only Midmark replacement parts.

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

Return To Table Of Contents

# SECTION I
# GENERAL INFORMATION

## 1.1 Model / Serial Number Location

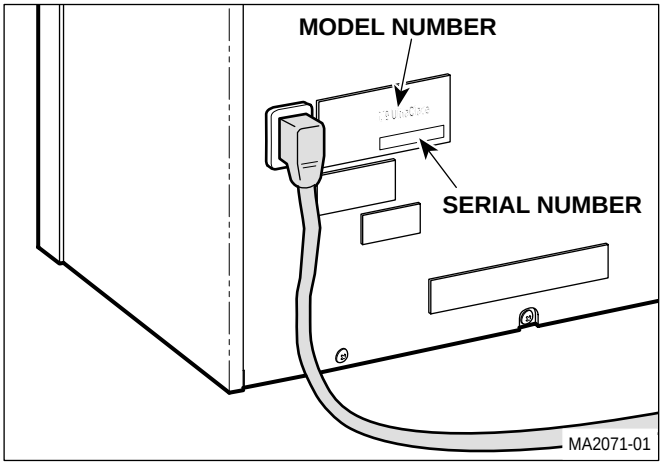



**Figure 1-1. Model / Serial Number Location**

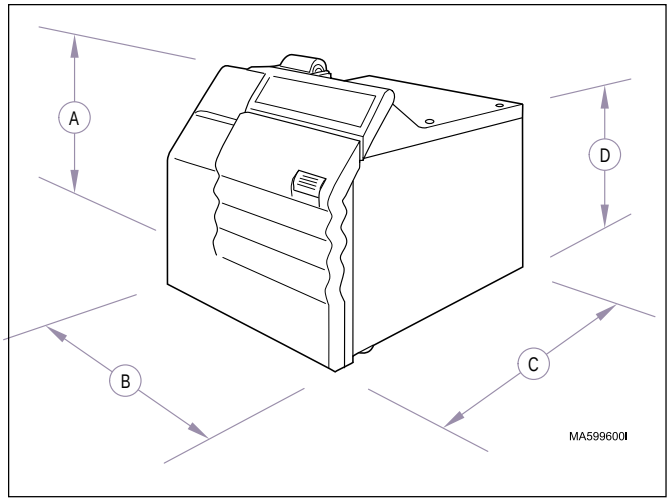



**Figure 1-2. Dimensions**

## 1.2 Specifications

**Table 1-1. Specifications**

| Description | Data |
|---|---|
| **M9 / M9D** Dimensions: | |
| Front Height (A, Figure 1-2) | 16.4 in (41.8 cm) *(printer adds approx. 0.5 in)* |
| Width (B) | 15 in (38.1 cm) |
| Depth (C) | 18.1 in (47.8 cm) |
| Back Height (D) | 13.75 in (34.9 cm) |
| Chamber Diameter | 9 in. (22.8 cm) |
| Chamber Depth | 15 in. (38.1 cm) |
| Shipping Carton | 22 in x 17.75 in x 18 in (56 cm x 45 cm x 46 cm) |
| Weight: | |
| Reservoir Empty | 70 lb (32 kg) |
| Reservoir Full | 77 lb (35 kg) |
| With Shipping Carton | 78 lb (36 kg) |
| Water Reservoir Capacity | Approx. 7/8 gallon (3.31 Liters to full mark) |

| Description | Data |
|---|---|
| **M11 / M11D** Dimensions: | |
| Front Height (A, Figure 1-2) | 17.7 in (44.9 cm) *(printer adds approx. 0.5 in)* |
| Width (B) | 17.6 in (44.8 cm) |
| Depth (C) | 22.4 in (56.8 cm) |
| Back Height (D) | 15.25 in (38.7 cm) |
| Chamber Diameter | 11 in. (27.9 cm) |
| Chamber Depth | 18 in. (45.7 cm) |
| Shipping Carton | 23 in x 27.5 in x 21.5 in (58.4 cm x 69.8 cm x 54.6 cm) |
| Weight: | |
| Reservoir Empty | 96 lb (43.5 kg) |
| Reservoir Full | 106 lb (48 kg) |
| With Shipping Carton | 128 lb (58 kg) |
| Water Reservoir Capacity | Approx. 1.25 gallon (4.7 Liters) to full mark |

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

# SECTION I
# GENERAL INFORMATION

**NOTE**
The following information applies to all models of the M9 / M9D / M11 / M11D included in this manual.

**Table 1-1. Specifications - *continued***

| Description | Data |
|---|---|
| **M9 / M9D / M11 / M11D** | |
| Electrical Requirements: | |
| 100 VAC Unit | 100 VAC 50 - 60 HZ, 15 amp, single phase |
| 115 VAC Unit | 110 - 120 VAC 50 - 60 HZ, 15 amp, single phase |
| 230 VAC Unit | 220 - 240 VAC 50 - 60 HZ, 7 amp, single phase |
| Power Consumption: | |
| 100 VAC Unit | 1425 WATTS, 15 amps @ 100 VAC |
| 115 VAC Unit | 1425 WATTS, 12 amps @ 120 VAC |
| 230 VAC Unit | 1500 WATTS, 7 amps @ 240 VAC |
| Recommended Circuit: | |
| A separate (dedicated) circuit is recommended for this sterilizer. The sterilizer *should not* be connected to an electrical circuit with other appliances or equipment unless the circuit is rated for the additional load. | |
| Chamber Pressure: | |
| Operating | 27 - 31 psi (186 - 215 kPa) |
| Minimum Before Door Is Released *(M9 & M11 only)* | 0.7 psi (5 kPa) |
| Maximum Before Safety Valve Opens (older units). | 35 psi (241 kPa) |
| Maximum Before Safety Valve Opens (newer units). | 40 psi (275.7 kPa) |
| Chamber Temperature (Operating): | |
| Unwrapped Cycle | 272-273 °F (133-134 °C) |
| Pouches Cycle | 272-273 °F (133-134 °C) |
| Liquids Cycle | 252-253 °F (122-123 °C) |
| Packs Cycle | 252-253 °F (122-123 °C) |
| Maximum Before Thermostat Energizes | 295 °F (146 °C) |

## 1.3 Description of Normal Operation

***(Figure 1-3 shows Display Panel Buttons & Lamps)***
***(Figure 1-4 shows location of Major Components)***

**Plug Power Cord Into Outlet**
Display: *E001 (Error lamp flashes)*

1. Line voltage (100/115/230V) is supplied to Control PC Board.

**NOTE**
There are two primary fuses on PC Board. Faulty fuse(s) will disable all functions of sterilizer.

**Press ON/STANDBY Button**
Display: *(Error lamp goes out; ON/STANDBY lamp illuminates, & program lamps flash)*

**Select Cycle** *(Unwrapped, Pouches, Liquids, Packs)*
Display: *TIME/TEMP. (for the selected cycle)*

**Press START Button**

**NOTE**
After the START button is pressed, the PC board continuously monitors the Door Switch for continuity. If continuity is not detected, the PC board stops the cycle, and the Door Ajar lamp illuminates.

1. The Fill Cycle is initiated.

**Fill Cycle**
Display: *(Filling lamp illuminates)*

1. Line voltage from PC Board energizes Fill Solenoid; this allows water to flow into Pressure Vessel.

2. Water fills Pressure Vessel until it makes contact with the Pressure Vessel Water Level Sensor.

3. When water completes the ground circuit between the Pressure Vessel Water Level Sensor & the chassis, the PC Board de-engergizes the Fill Solenoid & the Steriliation Cycle is initiated.

**Sterilization Cycle**
Display: *(Sterilizing lamp illuminates)*
*xxx° (chamber temperature)*
*xx PSI [after temperature reaches 208°F (98°C)]*

**NOTE**
During the Sterilization Cycle, the Temperature Probe monitors the chamber temperature and the PC Board monitors chamber pressure.

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

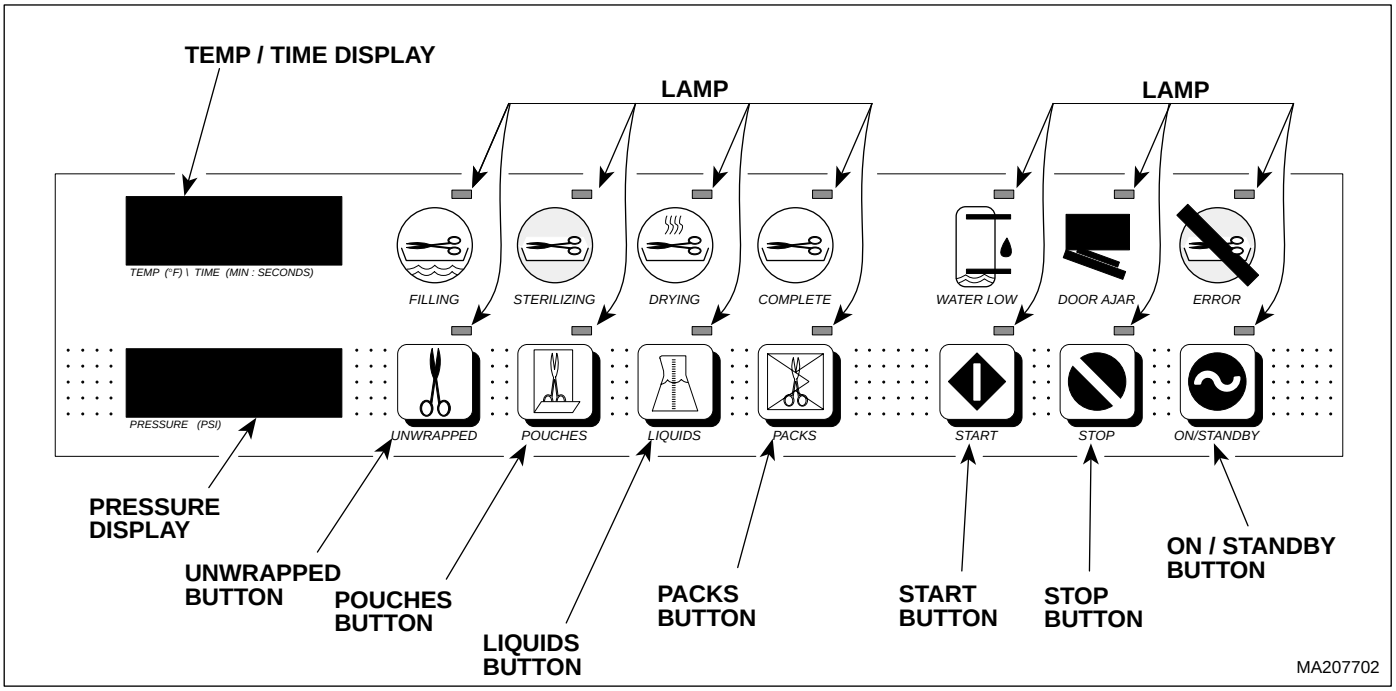



**Figure 1-3. Display Panel Button / Lamp Locations**

**Sterilization Cycle - *continued***

1. Line voltage from PC Board energizes Heating Element.
2. Air & steam flow thru Bellows as water in chamber begins to boil. When temperature reaches approx. 215° F (101° C), the Bellows closes and pressure begins to build.
3. When chamber reaches required temperature, Heating Element is de-energized and sterlization time begins to count down on Display PC Board.
4. Line voltage from PC Board energizes Heating Element intermittantly to maintain required temperature & pressure until time elapses.
5. When sterilization time expires, the Heating Element de-energized & the Vent Cycle is initiated.

**Vent Cycle**

1. Line voltage from PC Board energizes Vent Solenoid. *[Liquids Cycle requires chamber to cool to 223° F (106° C) before Vent Solenoid is energized]*
2. Chamber pressure is released thru Vent Solenoid until pressure drops to 0.7 psi (4.8 kPa).
3. Control PC Board sounds 5 beeps.
4. M9 / M11: Line voltage from PC Board energizes Pulse Solenoid.
   Door opens automatically.
   Drying Cycle is initiated.

   M9D / M11D: "Open the Door" Lamp illuminates.
   "dddd" appears on Display PC Board.
   Manually open door at this time.
   Drying Cycle is initiated.

**Drying Cycle**

Display: *(Drying lamp illuminates)*
*xx:xx (time counts down from 30 minutes)*
*(Complete lamp illuminates at end of cycle)*

1. Line voltage energizes Heating Element for 45 seconds. (30 minute countdown begins on Display PC Board).
2. Heating Element is energized intermittantly *(as shown below)* until Dry Cycle is complete.

   45 seconds ON - 2 minutes OFF
   30 seconds ON - 2 minutes OFF
   xx* seconds ON - 2 minutes OFF (until cycle ends)

   **This time is adjustable. Refer to adjustment procedure in Section IV if necessary.*

# SECTION I
# GENERAL INFORMATION

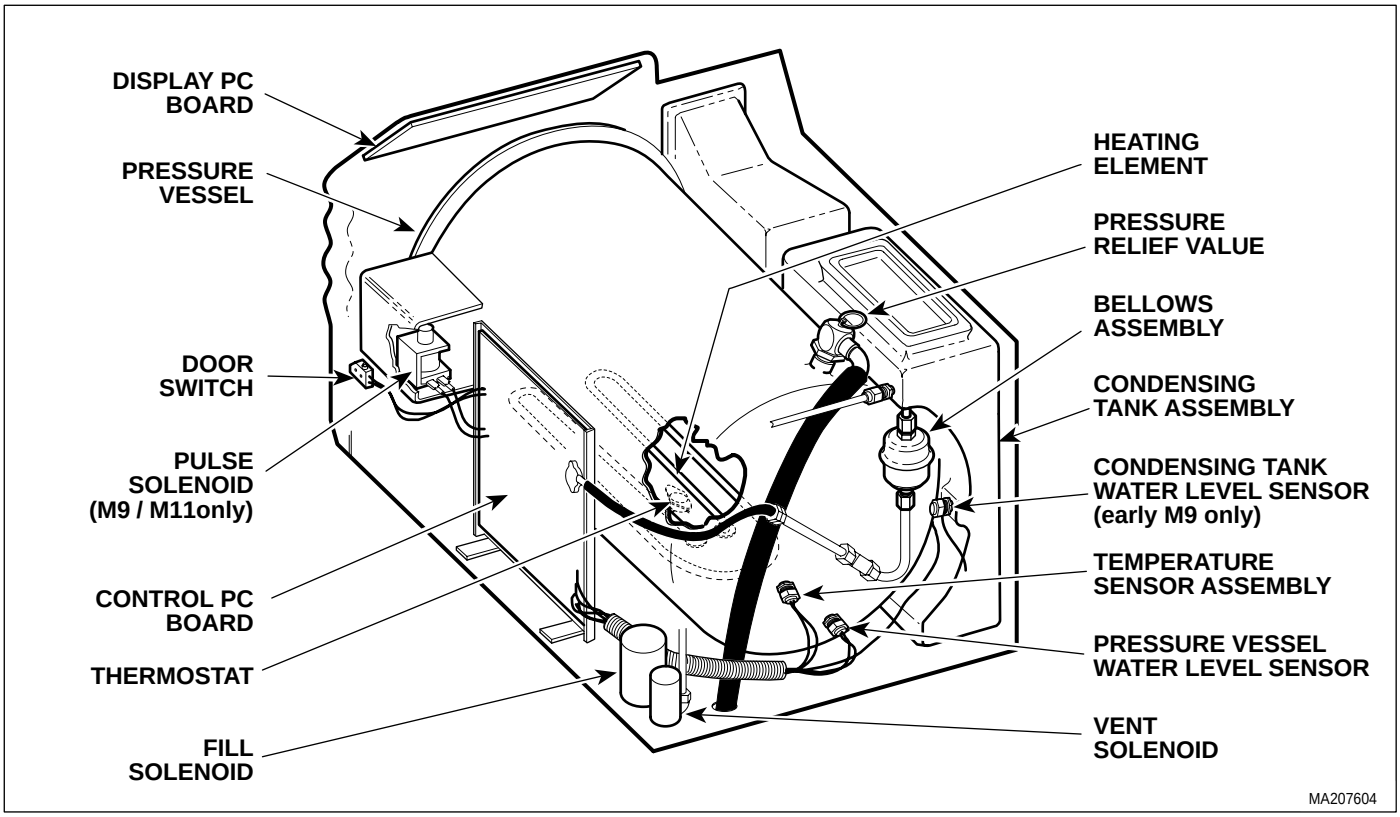



**Figure 1-4. Major Components**

## 1.4 Ordering Parts

Contact Midmark's Technical Service Department with all necessary information (model / serial number, part number, etc.).

Orders can be placed using the Fax Order Form ( page 7-2) or by calling the phone number on the back cover of this manual.

## 1.5 Special Tools

Special tools needed to repair the sterilizer are listed below in Table 1-2.

**Table 1-2. Special Tool List**

| Description of Special Tool | Manufacturer's Name / Address / Phone | Manufacturer's Part Number | Purpose of Special Tool |
|---|---|---|---|
| Digital Multimeter (must be capable of displaying 3 digits) | Commercially Available | Any Type | Used to check probes, switches, and connections for proper function by performing continuity checks. |
| Water Level Sensor Wrench | Midmark Corp.<br>60 Vista Drive<br>Versailles, Ohio 45380<br>(513) 526-3662 | 050-2324-00 | Used to hold fitting in place so the nut that holds water level sensor can be loosened / tightened. |
| 3/32 in. Diameter Punch | Commercially Available | Any Type | Used to remove / install two roll pins which secure door switch in place or roll pin which secures latch lever to pulse solenoid. |
| Pressure Gauge Test Harness | Midmark Corp.<br>60 Vista Drive<br>Versailles, Ohio 45380<br>(513) 526-3662 | 002-0372-00 | Used to check the pressure in the pressure vessel during a cycle to diagnose malfunctions and / or adjust the pressure range potentiometer to a correct setting. |

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

# SECTION II
# TESTING AND TROUBLESHOOTING

## 2.1 Operational Test

To effectively diagnose a malfunction of the sterilizer, perform the Pressure / Temperature Potentiometers Adjustment procedure. Refer to para 4.24.

## 2.2 Troubleshooting Procedures

If a malfunction is detected, locate the **Problem & Symptom** in Table 2-1. Perform the **Check** for each **Probable Cause** indicated. Follow instructions in the **Correction** column as they apply.

**Table 2-1. Troubleshooting Guide**

| Problem | Symptom | Probable Cause | Check | Correction |
|---|---|---|---|---|
| ***Error code 1*** (Power interruption to control PC board). | Shuts down during Sterilization cycle. | Overheat thermostat activated. (Pressure leak) | Check for pressure leaks. Refer to Table 2-2. | Replace malfunctioning component at pressure leak. |
| | | Overheat thermostat activated. (Not filling properly) | Check that Filling lamp illuminates. Be sure water level sensor is dry. | Replace water level sensor if necessary. Refer to para 4.10. |
| | | | Check that sterilizer is level. | Adjust sterilizer to level. |
| | | Bad electrical connection(s). | Check sterilizer and facility for proper electrical connections. | Tighten / replace loose connections. |
| | | Faulty overheat thermostat. (stuck open) | Perform continuity check on thermostat (N.C.). | Replace thermostat. Refer to para 4.16. |
| | Shuts down during Drying cycle. | Overheat thermostat activated. (High input voltage) | Check facility input voltage. Voltage should not exceed Electrical Requirements as noted in para 1.2. | Adjust the dry cycle time dip switches. Refer to para 4.27. |
| | | | Check resistance of heating element. Refer to para 5.1 for normal resistance ranges. | If resistance is out of limits, replace heating element. Refer to para 4.18. |
| | | Faulty overheat thermostat. (stuck open) | Perform continuity check on thermostat (N.C.). | Replace thermostat. Refer to para 4.16. |
| ***Error code 2*** (Stop Button pressed during cycle) | Shuts down during cycle. | Stop Button pressed during cycle. | _ | Restart cycle after beeper signal stops. |
| ***Error code 3*** (ON / Standby Button pressed during cycle) | Shuts down during cycle | On / Standby Button pressed during cycle. | _ | Restart cycle after beeper signal stops. |
| ***Error code 4*** (Door Ajar) | Shuts down during cycle | Door latch not closed. | Check if door latch is engaging switch. | Adjust door latch. Clean/lubricate door latch and pins. |
| | | Door switch connection loose. | Check door switch connection. | Tighten / replace loose connections. |
| | | Door switch malfunctioning. | Perform continuity check on door switch (N.O.). | Replace door switch. Refer to para 4.14. |

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

**Table 2-1. Troubleshooting Guide - *continued***

| Problem | Symptom | Probable Cause | Check | Correction |
|---|---|---|---|---|
| ***Error code 5*** [Display pressure exceeded 35 psi (241 kPa)] | Shuts down during Strerilization cycle | Sterilizer overloaded. | Check that pressure vessel is not overloaded with heavy linen packs. | Instruct operator to reduce load size. |
| | | Bellows malfunctioning. (closing early) | Bellows should close at approx. 212° F (100° C). | Replace bellows. Refer to para 4.7. |
| | | Sterilizer potentiometers out of calibration and/or dirty temperature sensor. | Clean temperature sensor; then check calibration of using Pressure Gauge Test Harness. | Perform Temperature / Pressure Potentiometer Adjustment. Refer to para 4.24. |
| | | Temperature sensor malfunctioning. | Check calibration. | Replace temperature sensor assembly. Refer to para 4.9. |
| ***Error code 6*** [Display temperature exceeded 277°F (136°C)] | Shuts down during Strerilization cycle | Slow pressure leak. | Check for pressure leaks. Refer to Table 2-2. | Replace malfunctioning component at pressure leak. |
| | | Sterilizer potentiometers out of calibration and/or dirty temperature sensor. | Clean temperature sensor; then check calibration of using Pressure Gauge Test Harness. | Perform Temperature / Pressure Potentiometer Adjustment. Refer to para 4.24. |
| | | Temperature sensor malfunctioning. | Check calibration. | Replace temperature sensor assembly. Refer to para 4.9. |
| ***Error code 7*** [Display pressure dropped below 24.5 psi (169 kPa)] | Shuts down during Strerilization cycle | Slow pressure leak. | Check for pressure leaks. Refer to Table 2-2. | Replace malfunctioning component at pressure leak. |
| | | Sterilizer potentiometers out of calibration and/or dirty temperature sensor. | Clean temperature sensor; then check calibration of using Pressure Gauge Test Harness. | Perform Temperature / Pressure Potentiometer Adjustment. Refer to para 4.24. |
| | | Temperature sensor malfunctioning. | Check calibration. | Replace temperature sensor assembly. Refer to para 4.9. |

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

**Table 2-1. Troubleshooting Guide - *continued***

| Problem | Symptom | Probable Cause | Check | Correction |
|---|---|---|---|---|
| ***Error code 8*** ***- M9 & M11 only*** [Door switch did not change status after door solenoid was activated. | Door opens at end of cycle. | Door switch malfunctioning. | Perform continuity check on door switch. Check for loose connections. | Replace door switch. Refer to para 4.14. |
| | Door does not open at end of cycle. | Latch lever & pulse solenoid plunger mechanism malfunctioning. | Perform M9/M11 Door Opening Test. Refer to para 4.28. | Remove any debris or buildup from latch lever & pulse solenoid mechanism. |
| | | Door pins and latch bracket not functioning properly. | Check for burrs on door pins and latch bracket in door. | Remove burrs; then clean and lube with lithium based grease. |
| | | Zero pressure potentiometer out of calibration. | Check calibration of zero pressure potentiometer. | Adjust zero pressure potentiometer. Refer to para 4.24. |
| | | Pulse solenoid malfunctioning. | Perform M9/M11 Door Opening Test. Refer to para 4.28. | Replace pulse solenoid. Refer to para 4.15. |
| ***Error code 9*** [Pressure exceeded 0.9 psi (6.2 kPa) during Dry cycle] | ***M9/M11*** - Door opens at end of cycle.<br><br>***M9D/M11D*** - Door is manually opened at end of cycle | Zero pressure potentiometer out of calibration. | Check calibration of zero pressure potentiometer. | Adjust zero pressure potentiometer. Refer to para 4.24. |
| | ***M9/M11 -*** Door does not open at end of cycle. | Latch lever & pulse solenoid plunger mechanism malfunctioning. | Perform M9/M11 Door Opening Test. Refer to para 4.28. | Remove any debris or buildup from latch lever & pulse solenoid mechanism. |
| | | Door pins and latch bracket not functioning properly. | Check for burrs on door pins and latch bracket in door. | Remove burrs; then clean and lube with lithium based grease. |
| | | Zero pressure potentiometer out of calibration. | Check calibration of zero pressure potentiometer. | Adjust zero pressure potentiometer. Refer to para 4.24. |
| | Door is closed when error is detected. | Door was closed during Dry cycle. | - | Inform operator not to shut door during Dry cycle. |

**Table 2-1. Troubleshooting Guide - *continued***

| Problem | Symptom | Probable Cause | Check | Correction |
|---|---|---|---|---|
| ***Error code 10*** (Watchdog timer reset error) | Sterilizer does not complete cycle. | Control PC board has had a software / hardware failure. | DIsconnect power; then check for disconnected wiring in sterilizer or facility. Connect power & run additional cycle. | If error code persists, replace control PC board. Refer to para 4.13. |
| ***Error code 11*** (Software interrupt error) | Sterilizer does not complete cycle. | Control PC board has a software / hardware malfunction. | Disconnect power for approx. 10 seconds; then connect power & run additional cycle. | If error code persists, replace control PC board. Refer to para 4.13. |
| ***Error code 12*** (Ram test error) | Sterilizer does not complete cycle. | Control PC board has a software / hardware malfunction. | Disconnect power for approx. 10 seconds; then connect power & run additional cycle. | If error code persists, replace control PC board. Refer to para 4.13. |
| ***Error code 13*** ***-M9D & M11D only*** (Door switch status unchanged since last cycle) | Sterilizer does not complete cycle. | Door switch is malfunctioning. | Perform continuity check on door switch. | Replace door switch. Refer to para 4.14. |
| ***Blown Fuses*** | Main fuse on PC board blown | Short in pulse solenoid. | Unplug pulse solenoid; then run M9/M11 Door Opening Test. Refer to para 4.28. | Replace pulse solenoid. Refer to para 4.15. |
| ***No Display Lights*** | Unit displays temp. & pressure, but does not show LED status lights. | - | - | Disconnect power for approx. 30 seconds. Then connect power and check for proper operation. |
| ***Low Water Light*** ***(comes on after approx. 5 min.)*** | Water continuously fills chamber. | Water level sensor dirty or malfunctioning. | Clean water level sensor; then perform continuity check. | Replace water level sensor. Refer to para 4.10. |
| | | Temperature sensor malfunctioning. | Disconnect temp. sensor from PC board; then check for proper operation. | Replace temperature sensor. Refer to para 4.9. |
| | Water is not entering chamber. | Filter is dirty/clogged. | Clean filter with speedclean & brush or in ultrasonic cleaner. | Replace filter if necessary. Refer to para 4.19. |
| | | Debris trapped in fill solenoid. | Disassemble fill solenoid and remove any debris. | Replace fill solenoid. Refer to para 4.12. |
| ***Low Water Light*** ***(comes on immediately)*** (Older-style units only) | Low water light illuminates as soon as cycle is started. | Condensing tank level sensor malfunctioning. | - | Unplug sensor from PC board & permanantely jumper connection on board. |

**Table 2-1. Troubleshooting Guide - *continued***

| Problem | Symptom | Probable Cause | Check | Correction |
|---|---|---|---|---|
| ***Sterilizer has no power.*** | No response when ON/STANDBY is pushed (no lamps illuminate). | Sterilizer is not plugged in. | Check that power cord is plugged in to sterilizer and outlet. | Plug in power cord to sterilizer or outlet. |
| | | Fuse blown on control PC board. | Perform continuity check on control PC board fuses. | Replace fuses. |
| | | Thermostat activated. | Check for voltage at input to control PC board from thermostat. | Wait for sterilizer to cool. Re-check voltage. If none, replace thermostat. Refer to para 4.16. |
| ***Fill cycle malfunction.*** | Unit skips fill cycle. | Water level sensor wet from previous cycle. | - | Allow pressure vessel water level sensor to air dry or remove and hand dry. Refer to para 4.10. |
| | Chamber fills very slowly. | Filter / tubing plugged. | Remove filter and tubing and inspect. | Replace / clean filter and/or tubing. Refer to para 4.19. |
| | | Pressure vessel water level sensor malfunctioning or dirty. | Unplug sensor from PC board & jumper connection on board. Check for proper operation. | Replace/clean pressure vessel water level sensor. Refer to para 4.10. |
| | Chamber overfills with water. | Pressure vessel water level sensor malfunctioning or dirty. | Unplug sensor from PC board & jumper connection on board. Check for proper operation. | Replace/clean pressure vessel water level sensor. Refer to para 4.10. |
| | | Loose, broken, or dirty connection between pressure vessel water level sensor and control PC board. | Perform continuity check between connector and pressure vessel water level sensor. | Replace/clean broken wires or connections. |
| | | Sterilizer is not level. | Check sterilizer for level installation. | Re-install sterilizer on a level surface, adjust height of individual foot levelers, or shim up sterilizer. |
| | | Ground screw on PC board missing. | Check PC board ground screw. | Replace ground screw. |
| | | Temperature sensor malfunctioning. | Unplug temperature sensor from PC board then check for proper operation. | Replace temperature sensor. Refer to para 4.9. |
| | | Fill solenoid malfunctioning or stuck. | Check resistance of solenoid. Refer to Section 5. | Replace / clean fill solenoid. Refer to para 4.12. |
| | | Control PC board malfunctioning. | Check all **Probable Causes** listed above. | Replace control PC board. Refer to para 4.13. |

© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

**Table 2-1. Troubleshooting Guide - *continued***

| Problem | Symptom | Probable Cause | Check | Correction |
|---|---|---|---|---|
| ***Door does not open after vent cycle.*** ***- M9 / M11 only*** | Pulse solenoid energizes, but door does not open. | Latch lever binding. | Operate latch lever by hand to check for resistance. | Clean / lubricate latch lever. |
| | | Door latch binding. | Operate door latch by hand to check for resistance. | Clean / lubricate door latch. |
| | | Tray rack not pushed in all the way into chamber, causing interference with door. | Check to see if tray rack is installed properly so that is does not interfere with door. | Install tray rack properly so that it does not interfere with door. |
| | | Pressure zero potentiometer out of calibration. | - | Adjust pressure zero potentiometer. Refer to para 4.24. |
| ***Chamber does not vent properly.*** | Door opens after a longer than normal venting period. ***- M9 / M11*** OPEN THE DOOR lamp illuminates after longer than normal venting period. ***- M9D / M11D*** | Drain, filter, or vent tubing plugged. | Remove filter and tubing and inspect. | Clean, drain, and flush tubing. Replace/clean filter. Refer to para 4.19. |
| | | Vent solenoid malfunctioning or stuck. | Check resistance of solenoid coil. Refer to Section 5. | Replace/clean vent solenoid. Refer to para 4.11. |
| ***Temperature does not go above 215°F (101°C).*** | Unit will not complete sterilization cycle. | Slow pressure leak. | Check for pressure leaks. Refer to Table 2-2. | Replace malfunctioning component at pressure leak. |
| ***Instruments not drying.*** | Instruments are wet after drying cycle is complete. | Door is not opening at end of vent portion of cycle. | See **Problem**: *Door does not open after vent cycle*. | |
| | | Sterilizer is not level. | Check sterilizer for level installation. | Re-install sterilizer on a level surface, adjust height of individual foot levelers, or shim up sterilizer. |
| | | Filter is plugged. | Check that no water is left in pressure vessel after venting portion of cycle. | Replace/clean filter. Refer to para 4.19. |

**Table 2-1. Troubleshooting Guide - *continued***

| Problem | Symptom | Probable Cause | Check | Correction |
|---|---|---|---|---|
| ***OPEN THE DOOR lamp does not illuminate.*** ***- M9D / M11D only*** | OPEN THE DOOR lamp does not illuminate at the end of sterlization cycle. | Pressure potentiometer out of adjustment | Display PC board check will show zero pressure setting. Refer to para 4.25. | Adjust pressure potentiometer. refer to para 4.24. |
| ***Code "C001"*** ***-M9D & M11D only*** (Low water error) | Cycle will not run. | Water level in condensing tank is too low. | Check water level in condensing tank. | Fill condensing tank with distilled water. |
| | Cycle will not run. Condensing tank is full. | Fill solenoid malfunctioning or stuck. | Check resistance of solenoid. Refer to Section 5. | Replace fill solenoid. Refer to para 4.12. |
| | | Water level sensor dirty or malfunctioning. | Clean water level sensor; then perform continuity check. | Replace water level sensor. Refer to para 4.10. |
| | Chamber overfills with water. | Temperature sensor malfunctioning. | Disconnect temperature sensor; then check for proper operation. | Replace temperature sensor. Refer to para 4.9. |
| ***Code "C002"*** ***-M9D & M11D only*** (Door ajar) | Cycle will not run. | Door ajar. | - | Close door. |
| ***Code "C003"*** ***-M9D & M11D only*** (Dry cycle error) | Dry cycle did not start. | Door was not opened within 30 minutes after venting. | - | Rerun cycle. Open door within 30 minutes after venting. |

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

## 2.3 Areas To Check For Pressure Leaks *(Figure 2-1)*

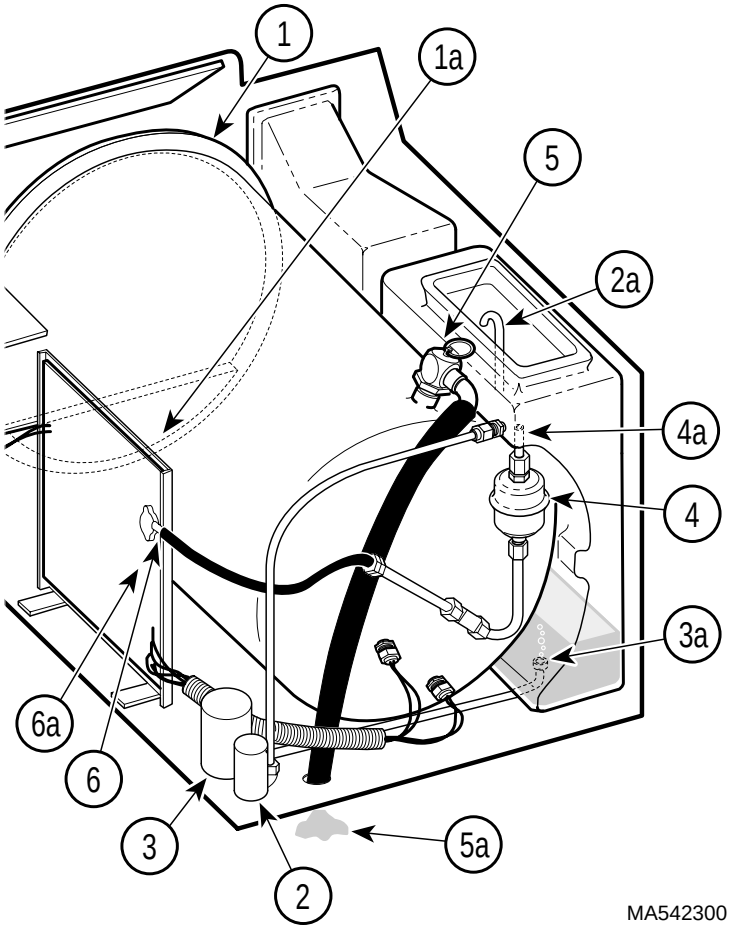



**Table 2-2. Areas To Check For Pressure Leaks**

| Component | Check | Correction |
|---|---|---|
| ***Door Gasket*** ***(1, Figure 2-1)*** | Check for water leaking around door. ***See (1a)***. | Replace door gasket. Refer to para 4.20. |
| ***Vent Solenoid (2)*** | Check for water leaking thru condensing coil. ***See (2a).*** | Replace vent solenoid. Refer to para 4.11. |
| ***Fill Solenoid (3)*** | Check for water leaking back into reservoir thru fill line, raising reservoir water level. ***See (3a).*** | Replace fill solenoid. Refer to para 4.12. |
| ***Bellows (4)*** | Check for excessive steam from bellows line in reservoir. NOTE: a light hiss of steam is not uncommon. ***See (4a).*** | Replace bellows. Refer to para 4.7. |
| ***Pressure Relief Valve (5)*** | Check for water leaking beneath back of sterilizer. NOTE: check actual pressure before replaceing pressure relief valve. ***See (5a).*** | Replace pressure relief valve. Refer to para 4.23. |
| ***Pressure Sensor Hose (6)*** | Check for steam leak onto main PC board. ***See (6a).*** | Secure pressure sensor hose to PC board with cable tie. |

# SECTION III
# SCHEDULED MAINTENANCE

## 3.1 Scheduled Maintenance

Table 3-1 lists inspections and services that should be performed periodically on the sterilizer.

**Table 3-1. Scheduled Maintenance Chart**

| Interval | Inspection or Service | What to Do |
|---|---|---|
| Semi-annually | Obvious damage | Visually check condition of sterilizer for obvious damage such as: cracks in components, missing components, dents in components, leaks, or any other visible damage which would cause sterilizer to be unsafe to operate or would compromise the performance of the sterilizer. Repair sterilizer if necessary. |
| | Fasteners/hardware | Check sterilizer for missing or loose fasteners/hardware. Replace any missing hardware and tighten any loose hardware as necessary using Loctite 271 if necessary. |
| | Moving parts | All moving parts should be lubricated with high temperature grease. |
| | Warning and instructional decals | Check for missing or illegible decals. Replace decals as necessary. |
| | Display overlay | Check for missing, damaged, or illegible display overlay. Replace display overlay if necessary. |
| | Wiring connections | Check the integrity of all wiring connections. Clean all dirty connections. Tighten any loose connections. Replace any damaged connections. |
| | Free movement of door latch | Clean door latch. Lubricate door latch and door pins with high temperature grease. |
| | Free movement of door switch spring | Clean door switch spring. Lubricate door switch spring with high temperature grease. Replace door switch spring if necessary. |
| | Latch lever (M9 / M11 only) | Operate latch lever by hand to check for resistance. Clean latch lever. Lubricate latch lever with high temperature grease. |
| | Door and Dam gaskets | Remove gaskets and check for dirt on gaskets, deterioration of gaskets, or voids in gaskets. Clean gaskets using a mild soap and water solution. Replace gaskets if necessary. Refer to para 4.20. |
| | Filter | Clean filter using a mild soap and water solution. Replace filter if necessary. Refer to para 4.19. |
| | Pressure vessel water level sensor | Remove any build-up from pressure vessel water level sensors. Replace sensor if necessary. Refer to para 4.10. |
| | Condensing tank water level sensor (early units only) | Remove any build-up from condensing tank water level sensor. Replace sensor if necessary. Refer to para 4.8. |
| | Tubing | Remove tubing and inspect for buildup. Clean, drain, and flush tubing. Replace tubing if necessary. |
| | Display PC board | Perform the display PC board lamp/display/button check. Refer to para 4.25. Replace display PC board if necessary. |
| | Pressure relief valve | Perform a pressure relief valve check. Refer to para 4.26. Replace pressure relief valve if necessary. Refer to para 4.23. |
| | Printer (optional equipment) | Check that printer prints properly. Replace ribbon cartridge if necessary. Replace printer if necessary. |
| | Operational test | Perform an operational test to determine if the sterilizer is operating within its specifications (Refer to para 2.1). Replace any malfunctioning components. Adjust the control PC board potentiometers if necessary. Refer to para 4.24. |

© Midmark Corporation 2002

Return To Table Of Contents

© Midmark Corporation 2002 

Printed in U.S.A.

# SECTION IV
# MAINTENANCE / SERVICE INSTRUCTIONS

## 4.1 Safety Precautions

**WARNING**
**Always disconnect the power cord from the outlet before removing any of the sterilizer covers/panels or making any repairs to prevent the possibility of electrical shock. Also, drain the sterilizer to prevent spills during repairs. Failure to comply with these instructions could result in serious personal injury or death.**

## 4.2 Top Cover Removal / Installation

A. Removal

(1) Disconnect power cord from the outlet.

(2) If the sterilizer contains a printer, remove printer (Refer to Operation Manual).

(3) Open sterilizer door.

(4) Remove two screws (1, Figure 4-1) and steam block (2) from top cover (3).

(5) Remove four screws (4) and two screws (5) from top cover (3).

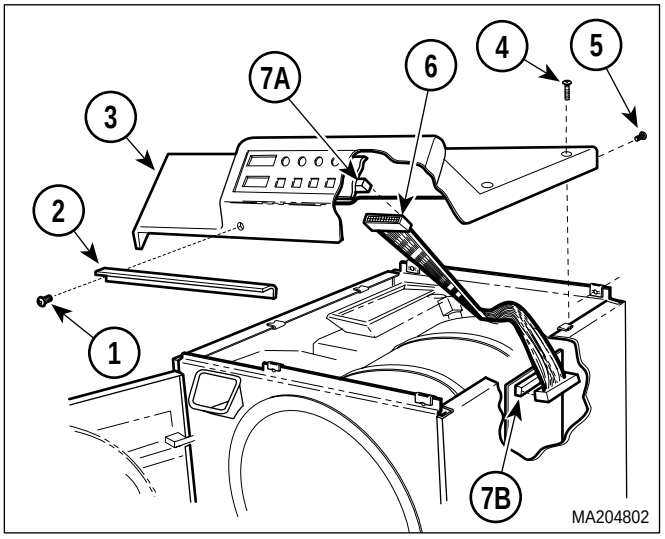



**Figure 4-1. Top Cover Removal / Installation**

(6) On units which apply, carefully break front of top cover (3) loose from silicone sealant.

**EQUIPMENT ALERT**
Lift top cover carefully and slowly. Ribbon connector is still connected to display PC board and any excess pressure exerted on it could result in a damaged ribbon connector or display PC board.

(7) Lift rear of top cover (3) and disconnect ribbon connector (6) from display PC board (7A) or control PC board (7B) (depending on whether ribbon connector (6) is part of display PC board or is a separate component).

(8) Remove top cover (3) from sterilizer.

B. Installation

(1) Coat mating surfaces of front panel lip and top cover (3) with silicone sealant.

(2) Position top cover (3) over sterilizer, with rear of top cover raised, and connect ribbon connector (6) to display PC board (7A) or control PC board (7B).

(3) Install top cover (3) on sterilizer and secure using two screws (5) and four screws (4).

(4) Install steam block (2) on top cover (3) and secure using two screws (1).

(5) Close sterilizer door.

(6) If the sterilizer contains a printer, install printer (Refer to Operation Manual).

## 4.3 Right Hand Side Panel Removal / Installation

A. Removal

(1) Disconnect power cord from the outlet.

(2) Remove two screws (1, Figure 4-2) from top cover (2).

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

# SECTION IV
# MAINTENANCE / SERVICE

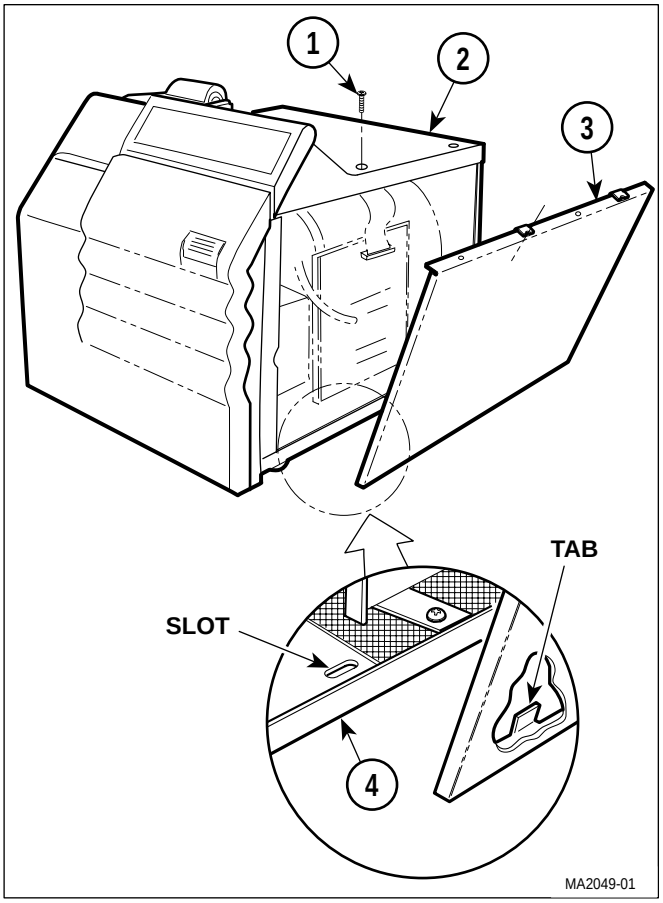



**Figure 4-2. Right Hand Side Panel Removal / Installation**

(3) Pull outward and down on the top edge of the right hand side panel (3) and remove right hand side panel from sterilizer.

B. Installation

(1) Insert two tabs of right hand side panel (3) into two slots of base (4).

(2) Raise top edge of right hand side panel (3) into position and secure using two screws (1).

## 4.4 Left Hand Side Panel Removal / Installation

A. Removal

(1) Disconnect power cord from the outlet.

(2) Open sterilizer door.

(3) Remove left screw (1, Figure 4-3) from steam block (2).

(4) Remove two screws (3) from top cover (4).

(5) Lift up the left hand corner of top cover (4), pull outward and down on the top edge of the left hand side panel (5), and remove left hand side panel from sterilizer.

B. Installation

(1) Insert two tabs of left hand side panel (5) into two slots of base (6).

(2) Lift up the left hand corner of top cover (4), raise the top edge of left hand side panel (5) into position, and secure using two screws (3).

(3) Install left screw (1) on steam block (2).

(4) Close sterilizer door.

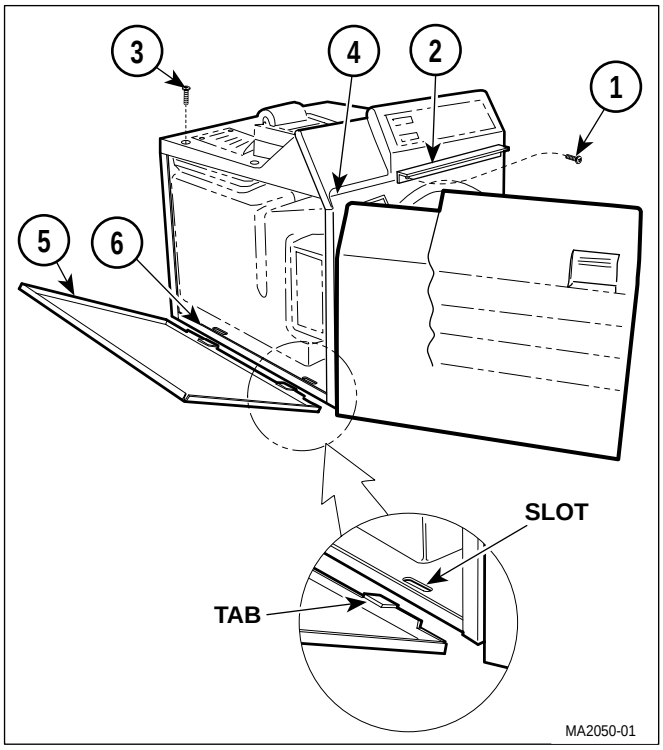



**Figure 4-3. Left Hand Side Panel Removal / Installation**

## 4.5 Back Panel Removal / Installation

A. Removal

(1) Disconnect power cord from sterilizer.

(2) Remove right hand side panel (Refer to para 4.3).

(3) Remove left hand side panel (Refer to para 4.4).

(4) Remove four screws (1, Figure 4-4) from back panel (2).

(5) Partially remove back panel (2) by simultaneously pulling downward and outward on back panel.

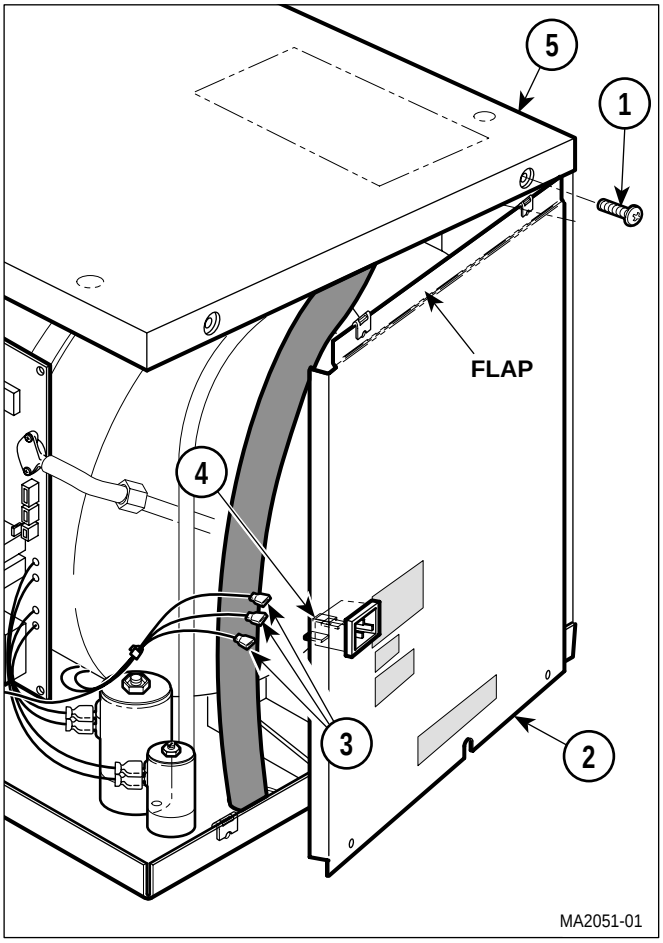



**Figure 4-4. Back Panel Removal / Installation**

**EQUIPMENT ALERT**
Ensure that wires are completely disconnected before attempting to remove back panel. Failure to do so could result in damage to sterilizer.

**NOTE**
Units prior to serial number CZ1110/OM1000 have a fuse holder attached to the back panel. On these sterilizers, tag and disconnect two wires from the receptacle and one wire from the fuse holder instead of performing step 6.

(6) On older units, tag and disconnect three wires (3) from terminals of receptacle (4) and remove back panel (2) from sterilizer. On newer units, separate back panel (2) from unit as far as possible and lay it on its side.

B. Installation

**NOTE**
Units prior to serial number CZ1110/OM1000 have a fuse holder attached to the back panel. On these sterilizers, remove tags and connect two wires to the receptacle and one wire to the fuse holder instead of performing step 1.

(1) On older units, remove tags and connect three wires (3) to terminals of receptacle (4).

(2) Position flap of back panel (2) behind top cover (5) and secure back panel in place using four screws (1).

(3) Install left hand side panel (Refer to para 4.4).

(4) Install right hand side panel (Refer to para 4.3).

## 4.6 Base Inspection Cover Removal / Installation

A. Removal

(1) Disconnect power cord from outlet.

(2) Drain water from condensing tank.

(3) Turn sterilizer onto its back.

(4) Remove two screws (1, Figure 4-5) and base inspection cover (2) from base (3).

B. Installation

(1) Install base inspection cover (2) on base (3) and secure using two screws (1).

(2) Turn sterilizer upright.

(3) Refill condensing tank with distilled water.

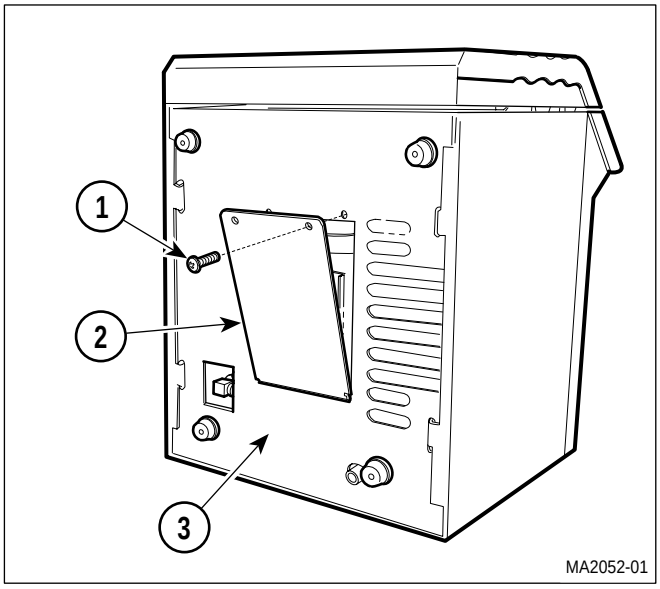



**Figure 4-5. Base Inspection Cover Removal / Installation**

## 4.7 Bellows Assembly Removal / Installation

**NOTE**
Figure 4-6 shows old-style bellows. The procedure for the new-style is the same.

A. Removal

(1) Remove back panel (Refer to para 4.5).

(2) Disconnect tube (1, Figure 4-6) from tee (2).

(3) Pull downward on bellows assembly (3) to remove bellows assembly from condensing tank (4).

(4) Loosen and remove tubes (1 and 5) from bellows assembly (3).

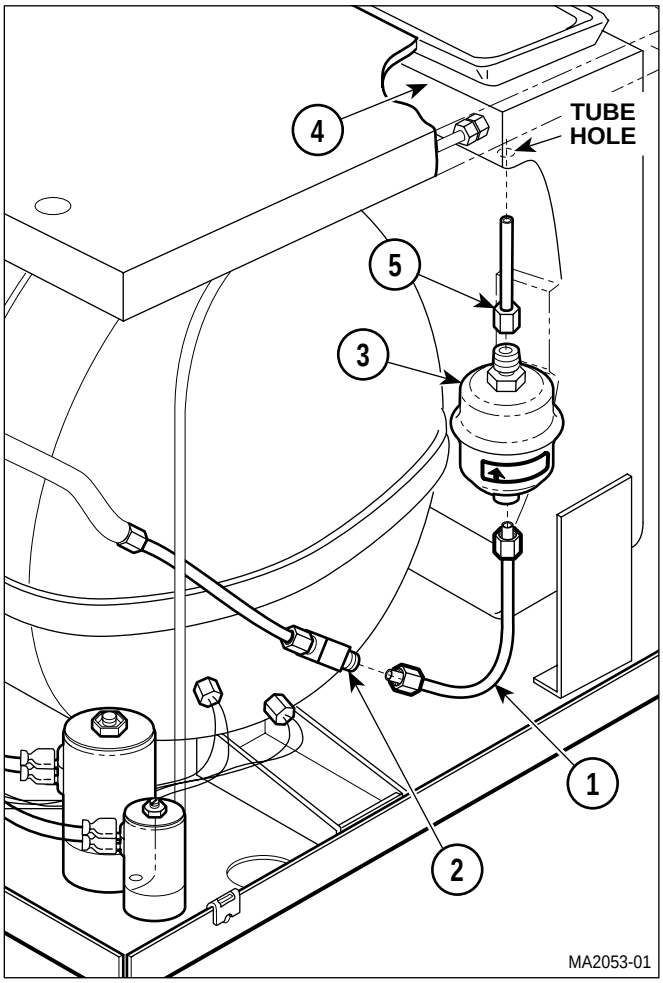



**Figure 4-6. Bellows Assembly Removal / Installation**

B. Installation

(1) Connect tubes (1 and 5) to bellows assembly (3).

(2) Position bellows assembly (3) and insert tube (5) into tube hole of condensing tank (4).

(3) Connect tube (1) to tee (2).

(4) Install back panel (Refer to para 4.5).

## 4.8 Condensing Tank Water Level Sensor Removal / Installation (Applies only to Units with old style Control PC Board with EPROM Version M or Before)

**NOTE**
Units with old style control PC board with EPROM version N or after ***or*** new style control PC board do not have a condensing tank water level sensor.

A. Removal

(1) Drain water from condensing tank.

(2) Remove back panel (Refer to para 4.5).

(3) Remove bellows assembly (Refer to para 4.7).

(4) Disconnect wire (1, Figure 4-7) from termi- nal (2).

(5) Using Water Level Sensor Wrench to hold fitting (3), loosen nut (4) (Refer to Table 1-2 for special tool).

(6) Pull assembled level sensor rod (5) from fitting (3).

(7) Remove nut (4), silicone tube (6), and crimp (7) from level sensor rod (5). Discard silicone tube and crimp.

(8) Using vise grips to hold level sensor rod (5), remove nut (8) and terminal (2) from level sensor rod.

B. Installation

(1) Using vise grips to hold level sensor rod (5), install terminal (2) on level sensor rod and secure using nut (8).

**EQUIPMENT ALERT**
The end of the silicone tube must extend past nut (4) after nut is installed. If it is not, the level sensor rod will not function properly because the terminal will be in contact with nut (4).

(2) Install crimp (7), nut (4), and silicone tube (6) on level sensor rod (5) and secure by crimping crimp (7).

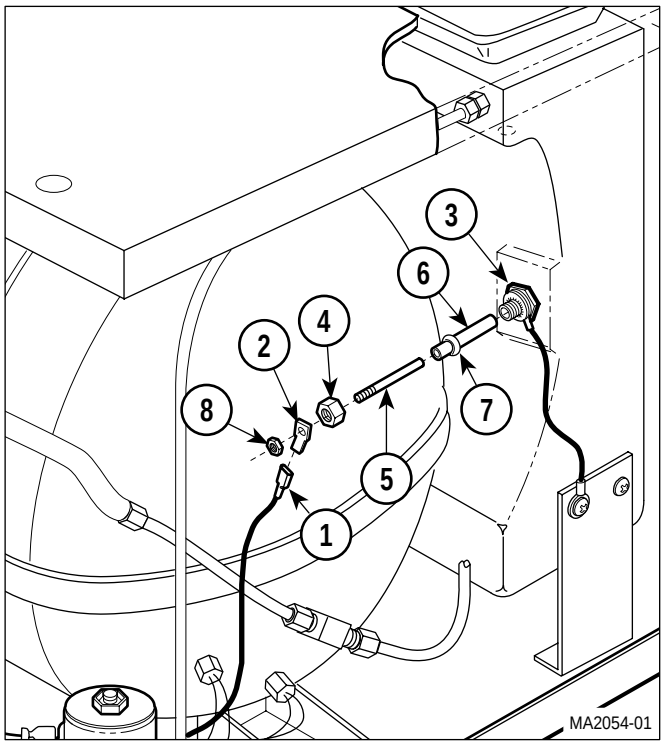



**Figure 4-7. Condensing Tank Water Level Sensor Removal / Installation**

(3) Install assembled level sensor rod (5) in fit- ting (3).

(4) Using Water Level Sensor Wrench to hold fitting (3), tighten nut (4) (Refer to Table 1-2 for special tool).

(5) Connect wire (1) to terminal (2).

(6) Install bellows assembly (Refer to para 4.7).

(7) Install back panel (Refer to para 4.5).

(8) Refill condensing tank with distilled water.

## 4.9 Temperature Sensor Assembly Removal / Installation

A. Removal

(1) Remove back panel (Refer to para 4.5).

**NOTE**
Units with old style control PC board with EPROM version N or after ***or*** new style control PC board will only have two wire harnesses to disconnect instead of three.

(2) Disconnect two / three wire harnesses (1, Figure 4-8) from two / three terminals (2).

(3) Remove flex guard tubing (3) from two / three wire harnesses (1).

(4) Remove temperature sensor assembly (4) from pressure vessel (5).

B. Installation

(1) Coat threads of temperature sensor assembly (4) with teflon tape.

(2) Install temperature sensor assembly (4) in pressure vessel (5).

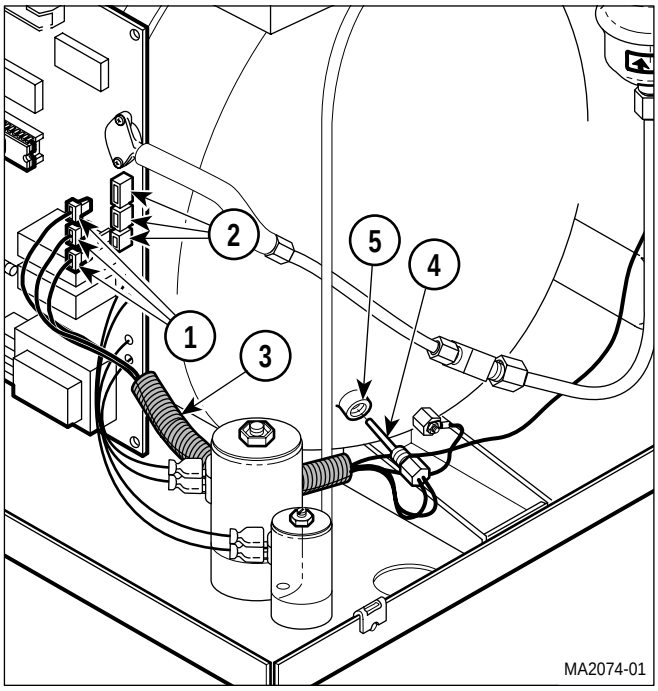



**Figure 4-8. Temperature Sensor Assembly Removal / Installation**

(3) Install flex guard tubing (3) on three wire harnesses (1).

(4) Connect three wire harnesses (1) to three terminals (2).

(5) Install back panel (Refer to para 4.5).

## 4.10 Pressure Vessel Water Level Sensor Removal / Installation

A. Removal

(1) Remove back panel (Refer to para 4.5).

(2) Remove wire tray rack and tray plate (Refer to para (4-17).

(3) Disconnect wire (1, Figure 4-9) from termi- nal (2).

(4) Remove nut (3) and terminal (2) from level sensor rod (4).

(5) Remove nut (5).

**EQUIPMENT ALERT**
Do not try to pull level sensor rod out of back side of pressure vessel. Doing so will damage level sensor rod.

(6) Push level sensor rod (4) thru fitting (6) and into pressure vessel (7) and remove level sensor rod.

(7) Remove spacer (8) from level sensor rod (4).

(8) Remove silicone tube (9) from fitting (6). Discard silicone tube (9) and crimp (10).

(9) If damaged, remove fitting (6) from pressure vessel (7).

B. Installation

(1) If removed, coat fitting (6) with teflon tape and install fitting in pressure vessel (7).

(2) Install silicone tube (9) and spacer (8) on level sensor rod (4).

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

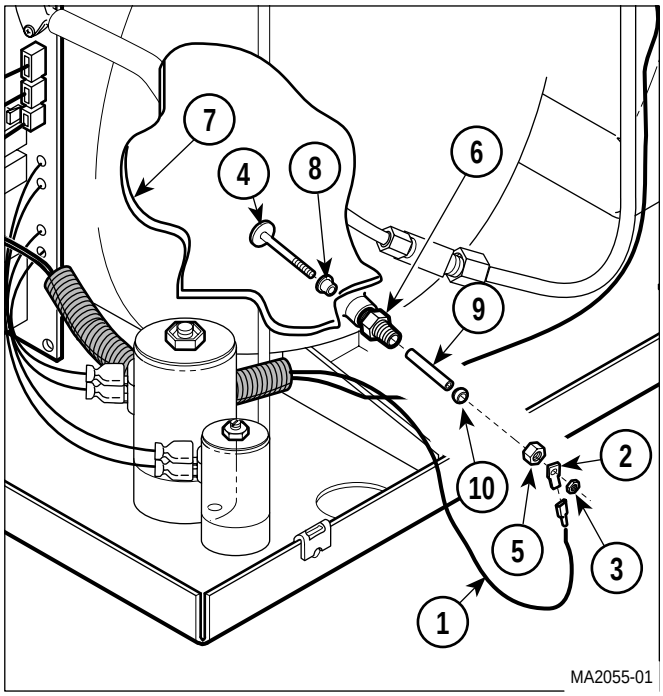



**Figure 4-9. Pressure Vessel Water Level Sensor Removal / Installation**

**NOTE**
The assembled level sensor rod must be installed from the inside of the pressure vessel.

(3) Install assembled level sensor rod (4) in fitting (6).

**EQUIPMENT ALERT**
The end of the silicone tube must extend past nut (5) after nut is installed. If it is not, the level sensor rod will not function properly because the terminal will be in contact with nut (5).

(4) Install and crimp crimp (10) on silicone tube (9).

(5) Install nut (5).

(6) Install terminal (2) on level sensor rod (4) and secure using nut (3).

(7) Connect wire (1) to terminal (2).

(8) Install wire tray rack and tray plate (Refer to para 4.17).

(9) Install back panel (Refer to para 4.5).

## 4.11 Vent Solenoid Removal / Installation

**NOTE**
Steps will vary slightly for M9D / M11D units. Use this procedure as a guide.

A. Removal

**NOTE**
Units prior to serial number CZ1110/OM1000 have a manifold assembly which secures the vent solenoid. Refer to the parts list to remove the vent solenoid on these sterilizers.

(1) Drain water from condensing tank.

(2) Remove back panel (Refer to para 4.5).

(3) Tag and disconnect two wires (1, Figure 4-10) from terminals (3).

(4) Tag and disconnect two wires (2) from terminals (4).

(5) Disconnect three tubes (5 thru 7) from elbows (8 thru 10).

(6) Remove two screws (11) from bottom of manifold assembly (12).

**NOTE**
Spacer (12A) is only on newer units.

(7) Remove manifold assembly (12) and spacer (12A) from base (13).

(8) Hold screw (1, Figure 4-11) and loosen nut (2). Turn terminals out of the way.

(9) Remove assembled vent solenoid (3) and elbow (4) from tee (5).

(10) Remove elbows (4 and 6) from vent solenoid (3).

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

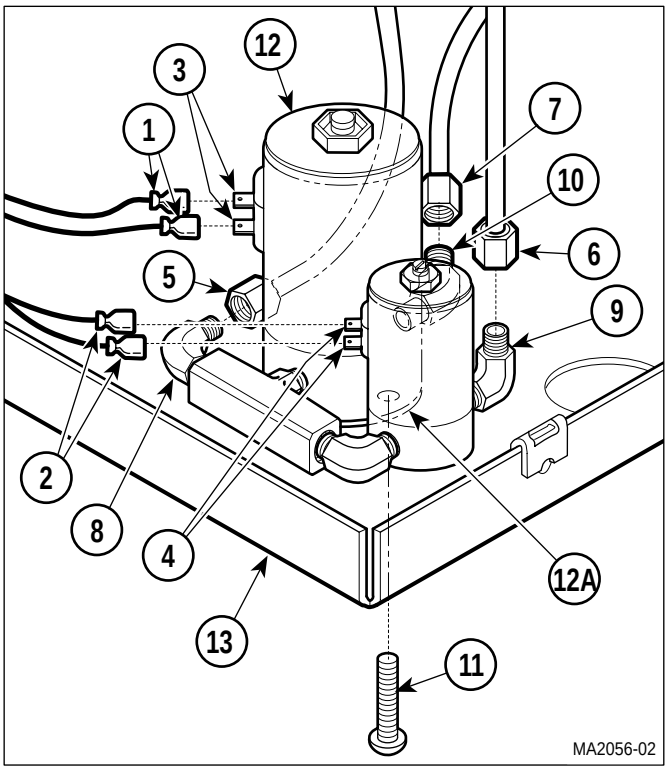



**Figure 4-10. Vent Solenoid Removal / Installation**

B. Installation

**NOTE**
The end of elbow (6) which receives a tube does not get coated with teflon tape.

(1) Coat the threads of elbows (4 and 6, Figure 4-11) with teflon tape.

(2) Install elbows (4 and 6) on vent solenoid (3).

(3) Hold screw (1) and loosen nut (2). Turn terminals out of the way.

(4) Install assembled elbow (4) and vent solenoid (3) on tee (5).

(5) Turn terminals of vent solenoid (3) so wires will connect easily to vent solenoid.

(6) Hold screw (1) and tighten nut (2).

**EQUIPMENT ALERT**
When installing the vent solenoid, the side of the solenoid marked IN needs to be connected to the pressure line. Reversing vent solenoid will cause system failure.

(7) Install spacer (12A, Figure 4-10) and manifold assembly (12) on base (13) and secure using two screws (11).

(8) Connect three tubes (5 thru 7) to elbows (8 thru 10).

(9) Connect two wires (2) to terminals (4).

(10) Connect two wires (1) to terminals (3).

(11) Install back panel (Refer to para 4.5).

(12) Refill condensing tank with distilled water.

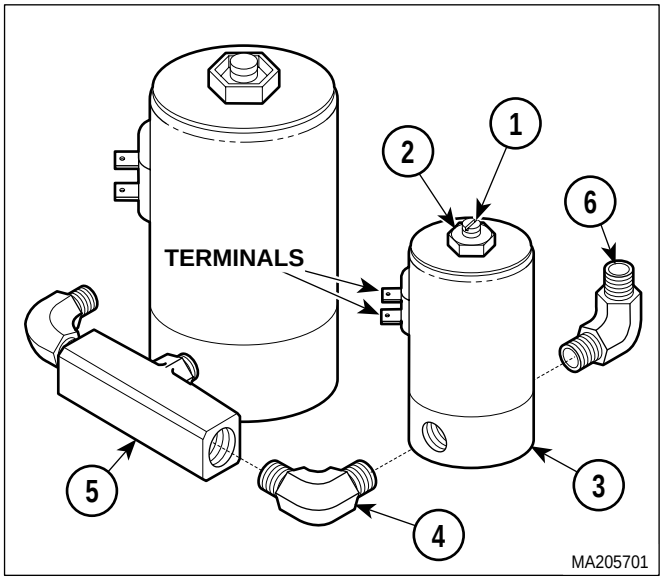



**Figure 4-11. Vent Solenoid Fittings Removal / Installation**

## 4.12 Fill Solenoid Removal / Installation

**NOTE**
Steps will vary slightly for M9D / M11D units. Use this procedure as a guide.

A. Removal

**NOTE**
Units prior to serial number CZ1110/OM1000 have a manifold assembly which secures the fill solenoid. Refer to the parts list to remove the fill solenoid on these sterilizers.

(1) Drain water from condensing tank.

(2) Remove back panel (Refer to para 4.5).

(3) Tag and disconnect two wires (1, Figure 4-12) from terminals (3).

(4) Tag and disconnect two wires (2) from terminals (4).

(5) Disconnect three tubes (5 thru 7) from elbows (8 thru 10).

(6) Remove two screws (11) from bottom of manifold assembly (12).

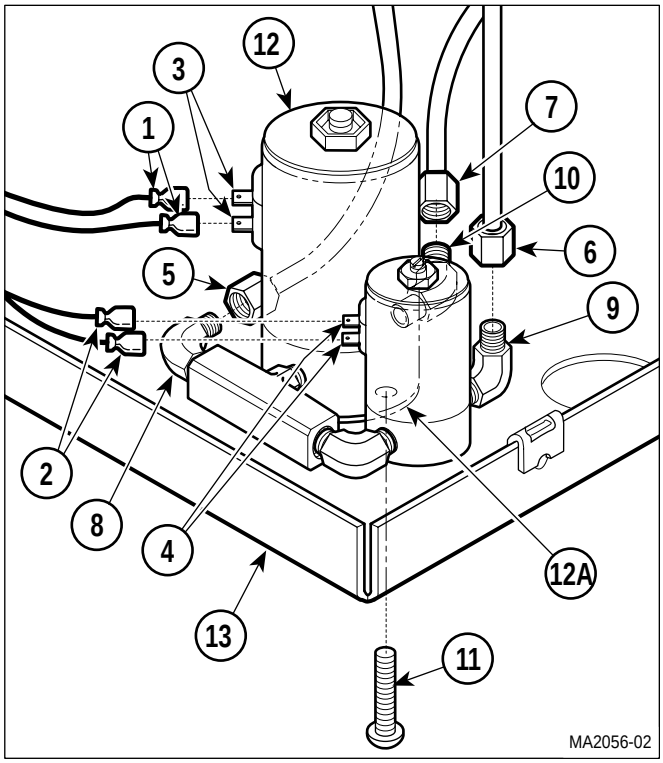



**Figure 4-12. Fill Solenoid Removal / Installation**

**NOTE**
Spacer (12A) is only on newer units.

(7) Remove manifold assembly (12) and spacer (12A) from base (13).

(8) Hold screw (1, Figure 4-13) and loosen nut (2). Turn terminals out of the way.

(9) Remove assembled vent solenoid (3) and elbow (4) from tee (5).

(10) Remove elbow (6) and tee (5) from fill solenoid (7).

(11) Remove elbow (8) from fill solenoid (7).

B. Installation

(1) Coat threads of tee (5, Figure 4-13) and elbows (6 and 8) with teflon tape.

(2) Install elbow (8) on fill solenoid (7).

(3) Install elbow (6) and tee (5) on fill solenoid (7).

(4) Loosen nut (9). Turn terminals of fill solenoid (7) so wires will connect easily to fill solenoid. Tighten nut (9).

(5) Coat threads of elbow (4) with teflon tape.

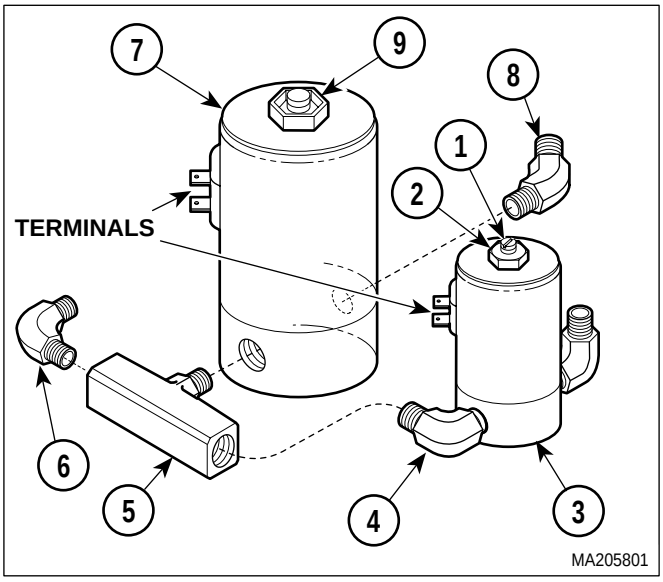



**Figure 4-13. Fill Solenoid Fittings Removal / Installation**

(6) Hold screw (1) and loosen nut (2). Turn terminals out of the way.

(7) Install assembled elbow (4) and vent solenoid (3) on tee (5).

(8) Turn terminals of vent solenoid (3) so wires will connect easily to vent solenoid.

(9) Hold screw (1) and tighten nut (2).

**EQUIPMENT ALERT**
When installing the vent solenoid and the fill solenoid, the side of the solenoids marked "IN" need to be connected to the pressure lines. Reversing solenoids will cause system failure.

(10) Install spacer (12A, Figure 4-12) and manifold assembly (12) on base (13) and secure using two screws (11).

(11) Connect three tubes (5 thru 7) to elbows (8 thru 10).

(12) Connect two wires (2) to terminals (4).

(13) Connect two wires (1) to terminals (3).

(14) Install back panel (Refer to para 4.5).

(15) Refill condensing tank with distilled water.

## 4.13 Control PC Board Removal / Installation

A. Removal

(1) Remove right hand side panel (Refer to para 4.3).

(2) Disconnect pressure tube (1, Figure 4-14) from pressure sensor (2).

**NOTE**
Units with old style control PC board with EPROM version N or after ***or*** new style control PC board will only have two wire harnesses (3) to disconnect instead of three.

(3) Disconnect two / three wire harnesses (3) from two / three connectors (4).

(4) Tag and disconnect two wires (5) from terminals (6).

(5) Tag and disconnect two wires (7) from terminals (8).

(6) Disconnect ribbon connector (9) from connector (10).

(7) Tag and disconnect neutral wire (11) from terminal (12).

(8) Tag and disconnect hot wire (13) from termi- nal (14).

(9) Disconnect printer cable (15) from connec- tor (16).

(10) Disconnect door switch harness (17) from connector (18).

M9 / M11 only

(11) Tag and disconnect two wires (19) from pulse solenoid terminals (20).

(12) Disconnect heater element wire (21) from connector (22).

**NOTE**
Positions of locknuts (1) and screws (2) are reversed on newer units.

(13) Remove two locknuts (1, Figure 4-15), screws (2), and control PC board (3) and control PC board bracket (4) as an assembly from base (5).

**NOTE**
Units prior to serial number CZ1110/OM1000 have the ground wire attached to the control PC board bracket. When nut (6), starwasher (7), and screw (8) are removed, ground wire will also be removed.

(14) Remove nut (6), starwasher (7), and screw (8) from control PC board bracket (4).

(15) Turn three standoff screws (9) 1/4 turn in the counter-clockwise direction and remove control PC board (3) and insulator (10) from control PC board bracket (4).

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

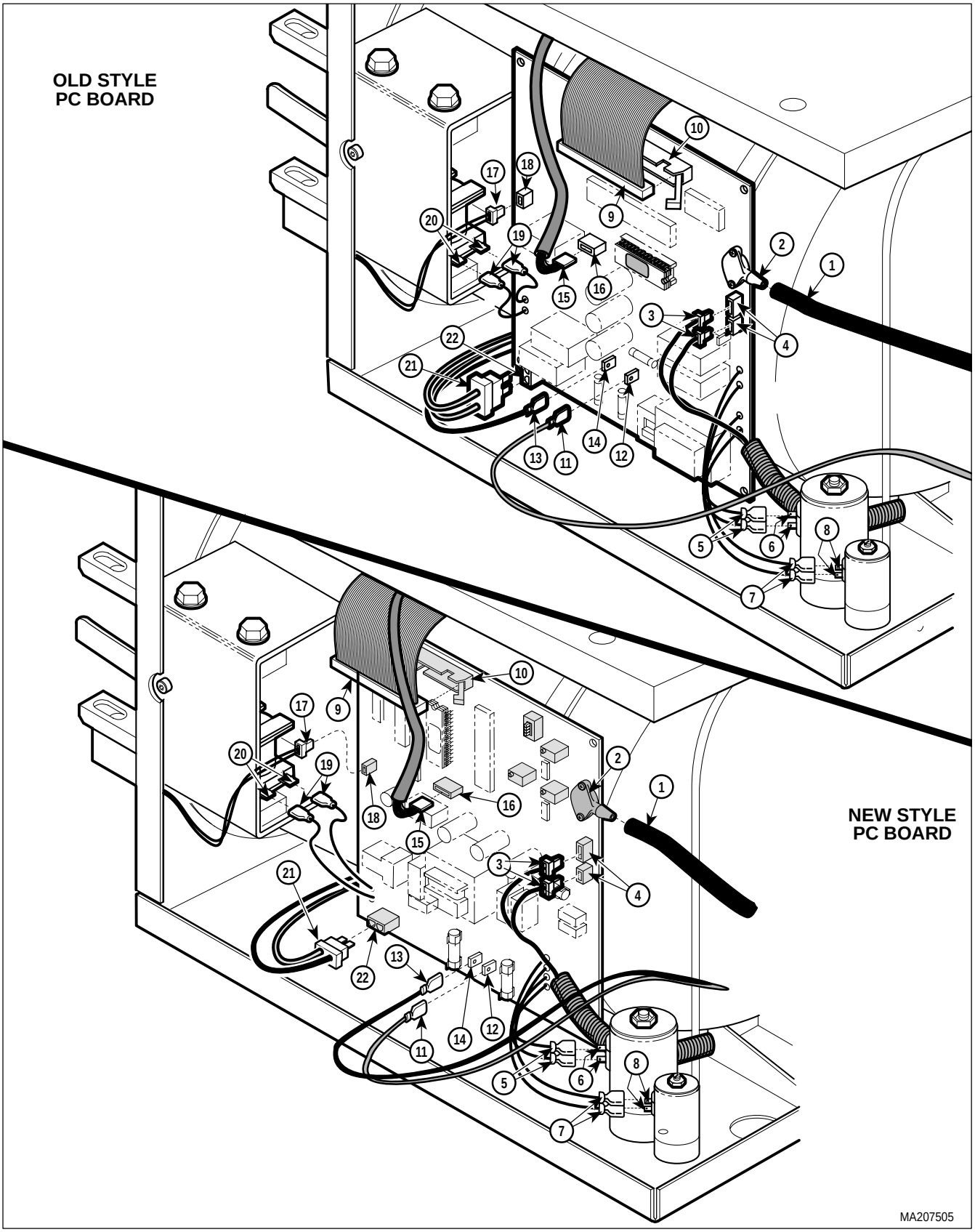



**Figure 4-14. Control PC Board Connections**

# SECTION IV
# MAINTENANCE / SERVICE

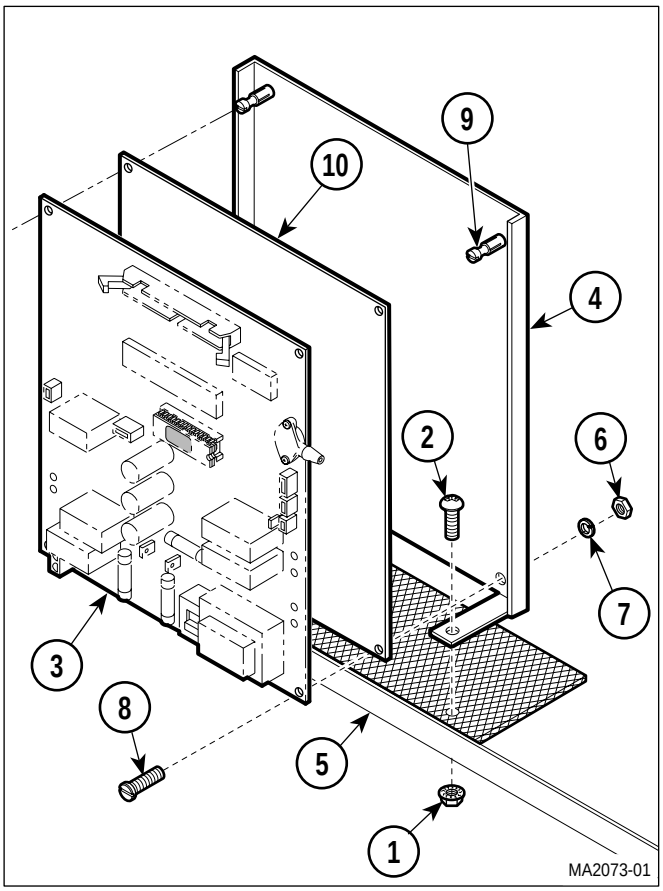



**Figure 4-15. Control PC Board Removal / Installation**

B. Installation

(1) Install insulator (10, Figure 4-15) and control PC board (3) on control PC board bracket (4) and secure by turning three standoff screws (9) 1/4 turn in the clockwise direction.

**NOTE**
Units prior to serial number CZ1110/OM1000 have the ground wire attached to the control PC board bracket. When nut (6), starwasher (7), and screw (8) are removed, ground wire will also be removed. Make sure ground wire is re-installed upon installation.

(2) Install screw (8), starwasher (7), and nut (6) on control PC board bracket (4).

**NOTE**
Positions of locknuts (1) and screws (2) are reversed on newer units.

(3) Install control PC board (3) and control PC board bracket (4) as an assembly on base (5) and secure using two screws (2) and lock- nuts (1).

(4) Connect heater element wire (21, Figure 4-14) to connector (22).

M9 / M11 only

(5) Connect two wires (19) on pulse solenoid terminals (20).

(6) Connect wire harness (17) to connector (18).

(7) Connect printer cable (15) to connector (16).

(8) Connect hot wire (13) to terminal (14).

(9) Connect neutral wire (11) to terminal (12).

(10) Connect ribbon connector (9) to connec tor (10).

(11) Connect two wires (7) to terminals (8).

(12) Connect two wires (5) to terminals (6).

**NOTE**
Units with old style control PC board with EPROM version N or after ***or*** new style control PC board will only have two wire harnesses (3) to connect instead of three.

(13) Connect two / three wire harnesses (3) to two / three connectors (4).

(14) Connect pressure tube (1) to pressure sensor (2).

(15) Install right hand side panel (Refer to para 4.3).

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

## 4.14 Door Switch Removal / Installation

A. Removal

**NOTE**
Units prior to serial number CZ1110/OM1000 have a different switch weldment. Since this procedure tampers with the pressure vessel integrity, it should not be attempted until a Midmark service representative has been contacted.

(1) Open sterilizer door.

(2) Remove right hand side panel (Refer to para 4.3).

(3) Disconnect wire harness (1, Figure 4-16) from connector (2).

(4) Using 3/32 in. punch, remove two roll pins (3) from door switch bracket (4) (Refer to Table 1-2 for special tool).

(5) Remove door switch (5) from door switch bracket (4).

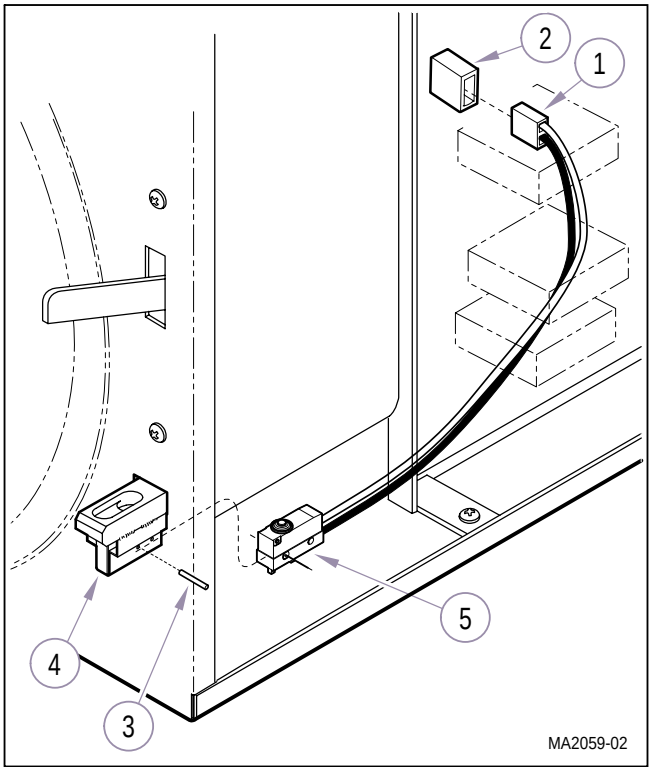



**Figure 4-16. Door Switch Removal / Installation**

B. Installation

(1) Position door switch (5) in door switch bracket (4).

(2) Using 3/32 in. punch, install two roll pins (3) in door switch bracket (4) (Refer to Table 1-2 for special tool).

(3) Connect wire harness (1) to connector (2).

(4) Install right hand side panel (Refer to para 4.3).

(5) Close sterilizer door.

## 4.15 Pulse Solenoid Removal / Installation *(M9 / M11 only)*

A. Removal

(1) Remove control PC board (Refer to para 4.13).

(2) Remove two screws (1, Figure 4-17) from pulse solenoid (2).

(3) Remove nut (3) and shoulder screw (4), and then remove pulse solenoid (2) and latch lever (5) as an assembly from pressure vessel bracket (6).

(4) Using 3/32 in. punch, remove roll pin (7) and latch lever (5) from plunger of pulse solenoid (2) (Refer to Table 1-2 for special tool).

B. Installation

(1) Using 3/32 in. punch, install latch lever (5) on plunger of pulse solenoid (2) and secure using roll pin (7) (Refer to Table 1-2 for special tool).

(2) Coat shoulder screw (4) with Loctite 271.

(3) Install latch lever (5) and pulse solenoid (2) as an assembly on pressure vessel bracket (6). Secure using shoulder screw (4) and nut (3).

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

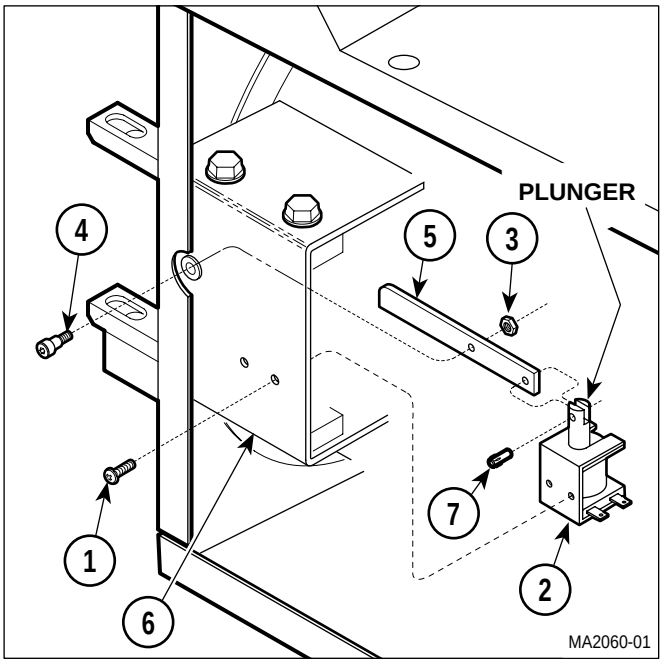



**Figure 4-17. Pulse Solenoid Removal / Installation**

**NOTE**
The holes for the two screws (1) are oblong. Install screws at the top of each hole first, then adjust downward as necessary if door will not open.

(4) Position pulse solenoid (2) on pressure vessel bracket (6) and secure in position using two screws (1).

(5) Install control PC board (Refer to para 4.13).

## 4.16 Thermostat Removal / Installation

A. Removal

(1) Drain water from condensing tank.

(2) Remove base inspection cover (Refer to para 4.6).

(3) Tag and disconnect wires (1 and 2, Figure 4-18) from terminals (3 and 4).

(4) Loosen two nuts (5) and pull top of bracket (6) approximately 1 in. from pressure vessel (7).

(5) Rotate terminals (3 and 4) to a vertical position and slide thermostat (8) upward and out of bracket (6).

B. Installation

(1) Slide thermostat (8) into bracket (6) and rotate terminals (3 and 4) to a horizontal position.

(2) Position bracket (6) against pressure vessel (7) and secure by tightening two nuts (5).

(3) Connect wires (1 and 2) to terminals (3 and 4).

(4) Install base inspection cover (Refer to para 4.6).

(5) Refill condensing tank with distilled water.

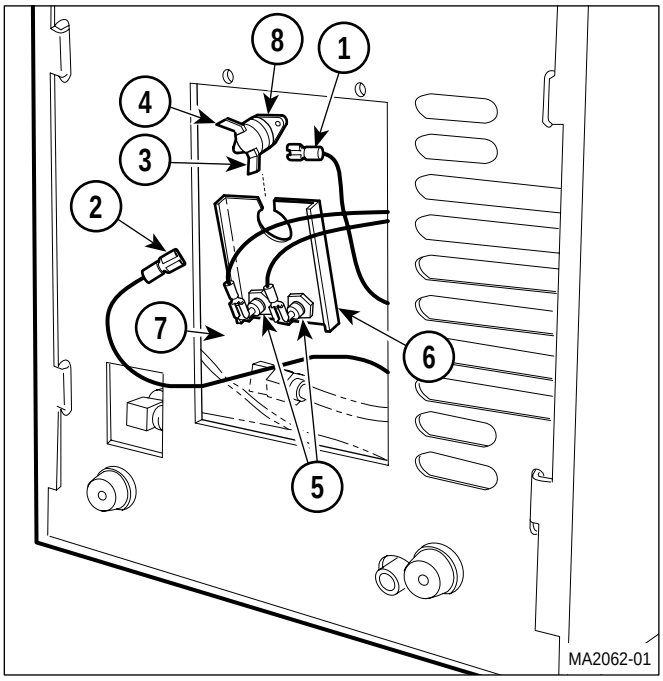



**Figure 4-18. Thermostat Removal / Installation**

## 4.17 Wire Tray Rack and Tray Plate Removal / Installation

A. Removal

(1) Open sterilizer door.

(2) Remove trays.

(3) Pull wire tray rack (1, Figure 4-19) and tray plate (2) from pressure vessel (3).

B. Installation

(1) Position two rear posts of wire tray rack (1) in rack holes of tray plate (2).

(2) Hold front end of wire tray rack (1) at approximately a 30° angle from tray plate (2).

**NOTE**
If wire tray rack is not raised, installation is very difficult.

(3) Insert rear end of wire tray rack (1) and tray plate (2) as an assembly in pressure vessel (3). Push wire tray rack and tray plate as far as they will go.

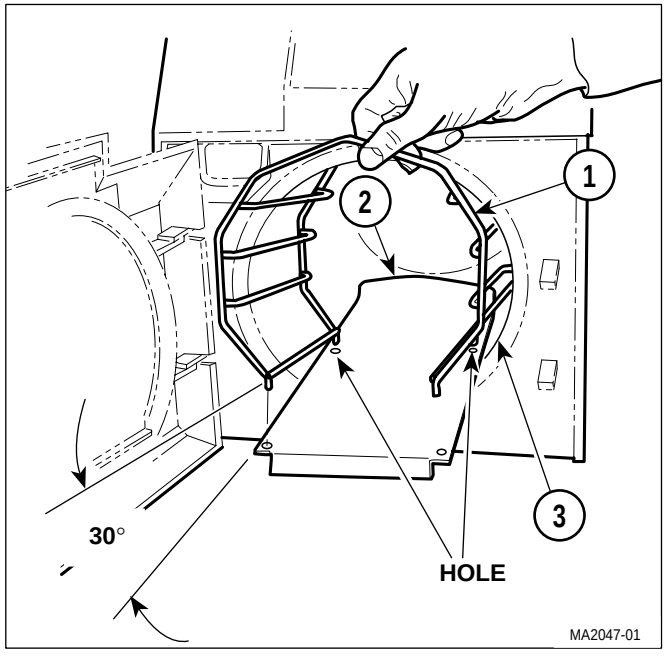



**Figure 4-19. Wire Tray Rack and Tray Plate Removal / Installation**

(4) Install trays.

(5) Close sterilizer door.

## 4.18 Heating Element and Gasket Removal / Installation

A. Removal

(1) Drain water from condensing tank.

(2) Remove base inspection cover (Refer to para 4.6).

(3) Tag and disconnect two wires (1, Figure 4-20) from terminals (2).

(4) Remove two nuts (3), lock washers (4), and brass washers (5).

**EQUIPMENT ALERT**
Over bending may result in broken or cracked terminals.

**NOTE**
The following step is necessary to remove the heating element from the pressure vessel.

(5) Straighten terminals (2) slightly from the present 90° position to approximately a 10° straighter position.

(6) Remove bracket (6) from pressure vessel (7) and position out-of-way.

(7) Turn sterilizer upright.

(8) Remove wire tray rack and tray plate (Refer to para 4.17).

(9) Remove heating element (8) and spacer assembly (9) from pressure vessel (7).

**NOTE**
Perform the following step only if the heating element is *not* being replaced, but damaged gaskets *are*.

(10) Remove two gaskets (10) from heating ele-ment (8).

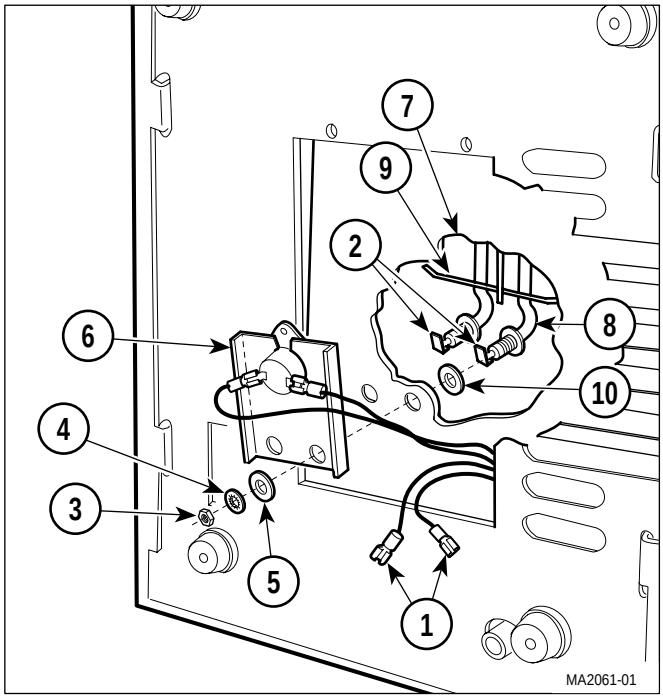



**Figure 4-20. Heating Element and Gasket Removal / Installation**

B. Installation

(1) Install two gaskets (10) on heating element (8).

**EQUIPMENT ALERT**
Over bending may result in broken or cracked terminals.

**NOTE**
The following step is necessary to install the heating element in the pressure vessel.

(2) Straighten terminals (2) slightly from the present 90° position to approximately a 10° straighter position.

(3) Install spacer assembly (9) and heating element (8) in pressure vessel (7).

(4) Turn sterilizer on its back.

(5) Position bracket (6) on pressure vessel (7).

**EQUIPMENT ALERT**
Hold heating element firmly in position while tightening nuts. Otherwise, damage to heating element or improper positioning of heating element may result. Also, spacer assembly must remain above gaskets. If spacer assembly is installed under gasket, leaking will result.

(6) Install two brass washers (5), lock washers (4), and nuts (3) on heating element (8).

**EQUIPMENT ALERT**
Over bending may result in broken or cracked terminals.

(7) Bend terminals (2) slightly, back to their original 90° position.

(8) Connect two wires (1) to terminals (2).

(9) Turn sterilizer upright.

(10) Install wire tray rack and tray plate (Refer to para 4.17).

(11) Install base inspection cover (Refer to para 4.6).

(12) Refill condensing tank with distilled water.

## 4.19 Filter Removal / Installation

A. Removal

(1) Remove wire tray rack and tray plate (Refer to para 4.17).

**NOTE**
Turn filter in a circular motion while pulling upward to remove.

(2) Using vise grips, remove filter (1, Figure 4-21) from pressure vessel (2).

B. Installation

(1) Position filter (1) in pressure vessel (2).

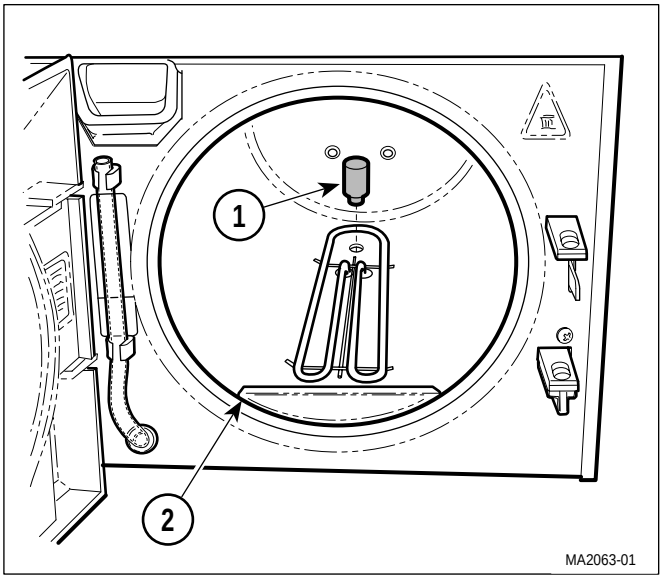



**Figure 4-21. Filter Removal / Installation**

(2) Using rubber hammer, tap filter (1) lightly into pressure vessel (2).

(3) Install wire tray rack and tray plate (Refer to para 4.17).

## 4.20 Door Gaskets Removal / Installation

A. Removal

(1) Open sterilizer door.

(2) Remove dam gasket (1, Figure 4-22) and door gasket (2) from door (3).

B. Installation

(1) Install door gasket (2) in groove in door (3).

**NOTE**
Some models may have two mounting pins on door instead of flap. Secure dam gasket by pressing onto mounting pins.

(2) Install dam gasket (1) by inserting bottom edge of dam gasket in slot of door gasket (2) and tucking top edge of dam gasket under flap of door (3).

(3) Close sterilizer door.

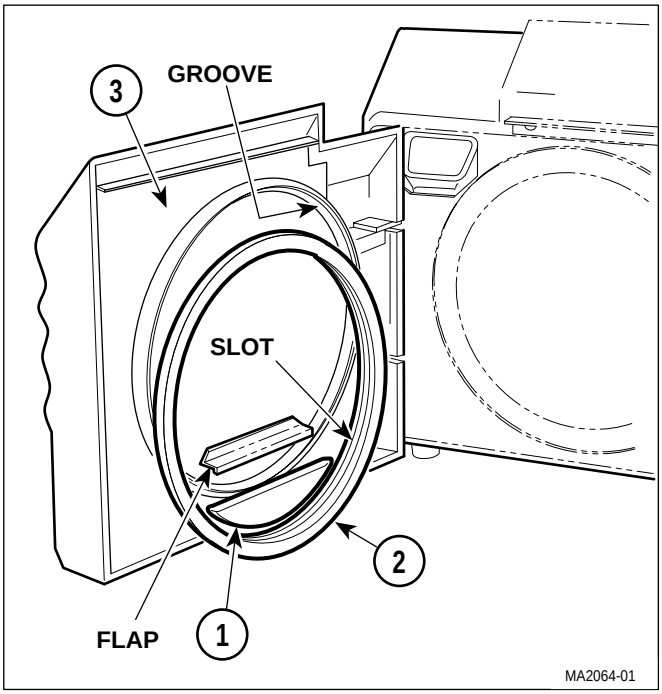



**Figure 4-22. Door Gaskets Removal / Installation**

## 4.21 Display PC Board Removal / Installation

A. Removal

(1) Remove top cover (Refer to para 4.2).

(2) Remove six screws (1, Figure 4-23) and display PC board (2) from top cover (3).

(3) If damaged, remove gasket (4) from top cover (3).

B. Installation

(1) If removed, install new gasket (4) by peeling protective backing off of gasket and pressing gasket firmly into position on top cover (3).

(2) Install display PC board (2) on top cover (3) and secure using six screws (1).

(3) Install top cover (Refer to para 4.2).

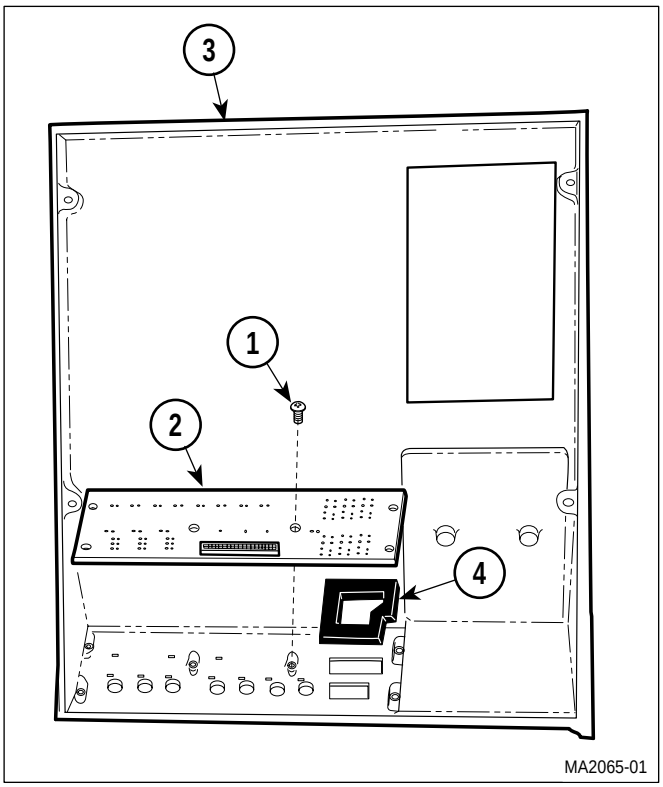



**Figure 4-23. Display PC Board Removal / Installation**

## 4.22 Condensing Tank Assembly Removal / Installation

A. Removal

(1) Drain water from condensing tank.

(2) Turn sterilizer onto its back.

(3) Disconnect fill tube (1, Figure 4-24) from elbow (2).

(4) Turn sterilizer upright.

(5) Remove top cover (Refer to para 4.2).

(6) Remove back panel (Refer to para 4.5).

(7) Remove bellows assembly (Refer to para 4.7).

(8) Loosen hose clamp (1, Figure 4-25) and remove sight/drain tube (2) and hose clamp from condensing tank assembly (3).

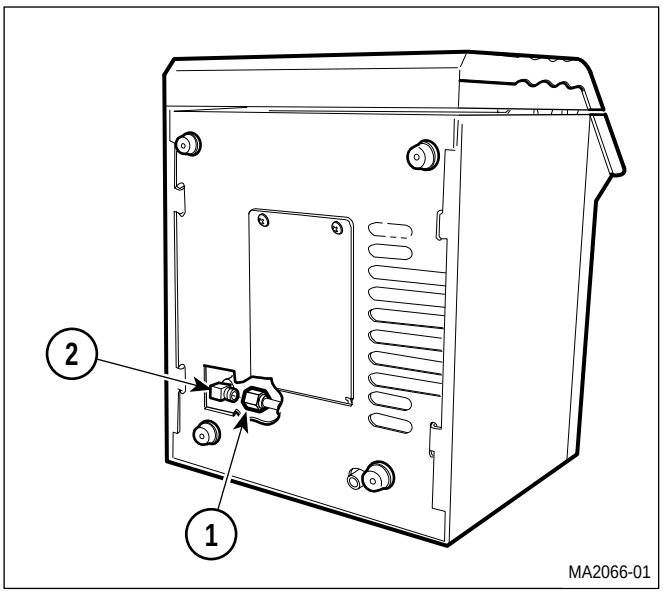



**Figure 4-24. Condensing Tank Assembly Fill Tube Disconnection / Connection**

**NOTE**
The following step applies only to units with old style control PC board with EPROM version M or before. Units with old style control PC board with EPROM version N or after ***or*** new style control PC board do not have wire (4) and terminal (5).

(9) Disconnect wire (4) from terminal (5).

(10) Disconnect vent tube (6) from fitting (7).

**NOTE**
Positions of locknut (9) and screws (8) are reversed on newer units.

(11) Remove screw (8), locknut (9), and condensing tank assembly (3) from base (10).

B. Installation

**NOTE**
Fill tube must be lined up with fitting at this time because it will be impossible to line up after screw and locknut are installed.

(1) Position condensing tank assembly (3, Figure 4-25) on base (10) and secure using screw (8) and locknut (9).

(2) Connect vent tube (6) to fitting (7).

**NOTE**
The following step applies only to units with old style control PC board with EPROM version M or before. Units with old style control PC board with EPROM version N or after ***or*** new style control PC board do not have wire (4) and terminal (5).

(3) Connect wire (4) to terminal (5).

(4) Install hose clamp (1) and sight/drain tube (2) on condensing tank assembly (3). Tighten hose clamp.

(5) Install bellows assembly (Refer to para 4.7).

(6) Install back panel (Refer to para 4.5).

(7) Install top cover (Refer to para 4.2).

(8) Turn sterilizer onto its side.

(9) Connect fill tube (1, Figure 4-24) to elbow (2).

(10) Turn sterilizer upright.

(11) Refill condensing tank with distilled water.

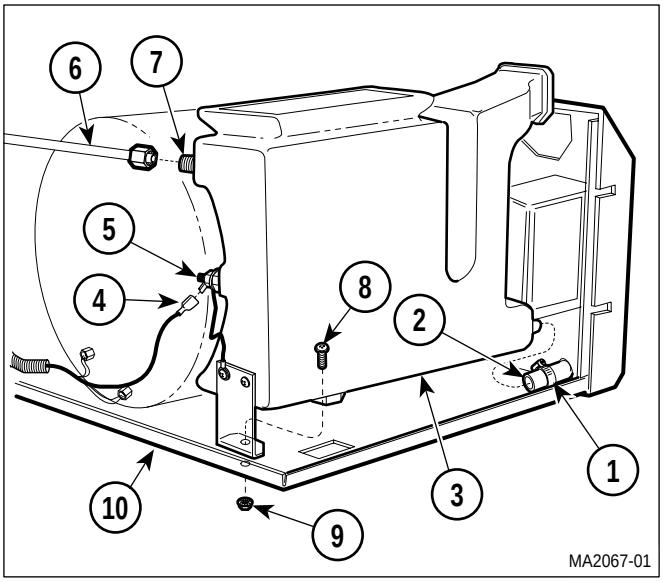



**Figure 4-25. Condensing Tank Assembly Removal / Installation**

## 4.23 Pressure Relief Valve Removal / Installation

A. Removal

(1) Remove condensing tank assembly (Refer to para 4.22).

(2) Disconnect tube (1, Figure 4-26) from elbow (2).

(3) Remove elbow (2) from pressure relief valve (3).

(4) Remove pressure relief valve (3) from pressure vessel (4).

B. Installation

(1) Coat threads of pressure relief valve (3) and elbow (2) with teflon tape.

(2) Install pressure relief valve (3) in pressure vessel (4).

(3) Install elbow (2) on pressure relief valve (3).

(4) Connect tube (1) to elbow (2).

(5) Install condensing tank assembly (Refer to para 4.22).

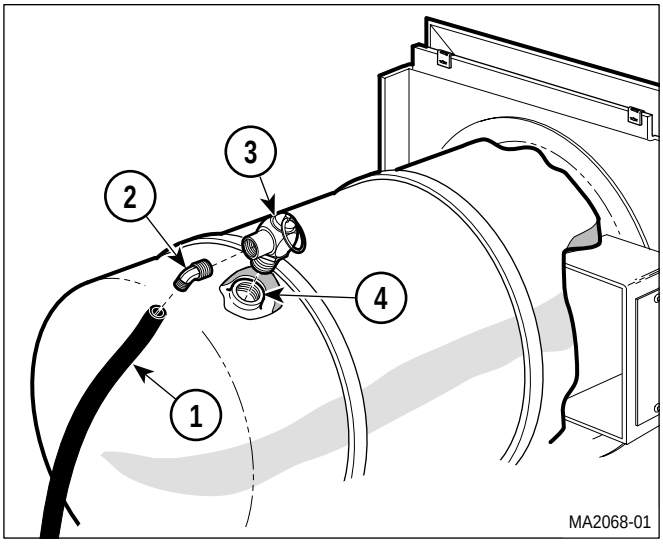



**Figure 4-26. Pressure Relief Valve Removal / Installation**

# SECTION IV
# MAINTENANCE / SERVICE

## 4.24 Pressure / Temperature Potentiometers Adjustments

**EQUIPMENT ALERT**
The pressure zero, pressure range, and temperature potentiometers cannot be adjusted separately. If one potentiometer needs adjusted, then the entire potentiometer adjustment procedure must be performed, and it must be performed in the proper sequence as follows:

(1) Remove right hand side panel.

(2) Open sterilizer door.

**DANGER**
**The following steps require the sterilizer to be plugged in to power while the adjustment is being performed. Do not touch any components except for the adjusting screw of the potentiometer. Failure to comply with these instructions could result in an electrical shock, which could result in severe personal injury or death.**

**NOTE**
After the following step is performed, the display PC board lamps will individually illuminate and then extinguish one at a time in a left to right sequence. When all the lamps have illuminated and extinguished, proceed with step 4.

(3) Press and hold down the LIQUIDS and PACKS buttons simultaneously while connecting the power cord to the sterilizer (See Figure 4-27). Release the LIQUIDS and PACKS buttons.

**NOTE**
When each button is pressed, its corresponding lamp will illuminate and stay illuminated. Also, after the following step, the PRESSURE (PSI) display will display the pressure that the control PC board is reading and the TEMP (°F) / TIME (MIN: SECONDS) display will display the temperature that the control PC board is reading. When each button has been pushed, proceed with step 5.

(4) Press and release the UNWRAPPED, POUCHES, LIQUIDS, PACKS, START, STOP, AND ON/STANDBY buttons one at a time and in this order.

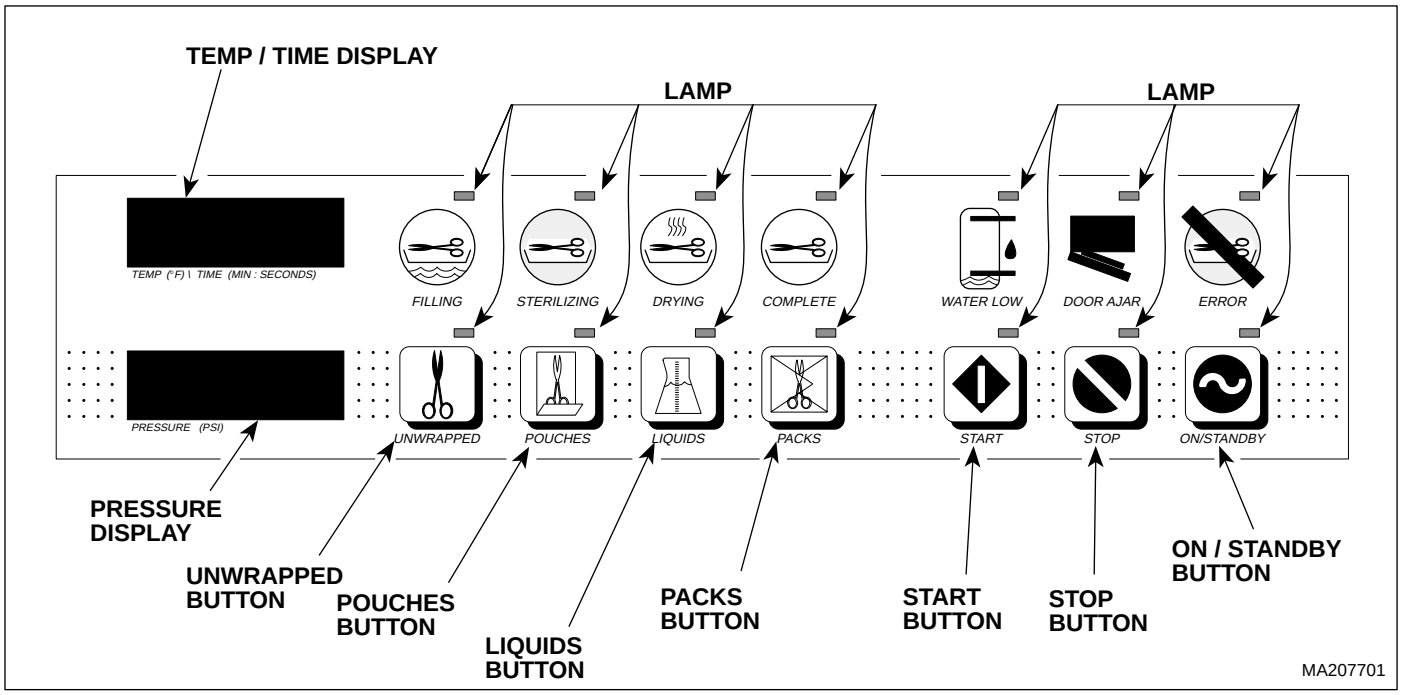



**Figure 4-27. Display PC Board Lamp / Display / Button Check**
***(M9 / M11 shown)***

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

(5) Turn adjusting screw of pressure zero potentiometer (1, Figure 4-28) in the counter-clockwise direction until the PRESSURE (PSI) display reads 0.0 psi (0.0 kPa).

(6) Turn adjusting screw of pressure zero potentiometer (1) in the clockwise direction until the PRESSURE (PSI) display reads 0.1 psi (1 kPa).

**CAUTION**
The multimeter leads must be connected exactly as shown in the illustration. Connecting a lead to the wrong side of the resistor or wrong pin of the chip will result in an incorrect adjustment.

(7) Set the multimeter to read VDC at least the 5 Volts range. Connect the red lead of a multimeter to Test Point (A) and the black lead of a multimeter to Test Point (B).

**NOTE**
In the following step, if the digital multimeter being used has only three digits, adjust to a reading of 2.54 VDC and then adjust and set to where the reading just changes to 2.55 VDC.

(8) The multimeter should read 2.550 VDC ±0.001 VDC. If multimeter reading is not 2.550 VDC ±0.001 VDC, adjust the adjusting screw of the temperature potentiometer (3) in a clockwise direction to lower the voltage setting or a counter-clockwise direction to raise the voltage setting until the multimeter reading is 2.550 VDC ±0.001 VDC.

(9) Close the sterilizer door.

(10) Connect Pressure Gauge Test Harness to sterilizer (See Figure 4-29) (Refer to the sterilizer Service and Parts Manual for this special tool).

(11) Press the START button to start a test/calibration cycle and wait until the temperature on the TEMP (°F) / TIME (MIN: SECONDS) display reaches 272 - 273°F (133-134°C) (See Figure 4-27).

**NOTE**
Turning the adjusting screw of the pressure range potentiometer in the clockwise direction raises the sterilizer pressure reading while turning the adjusting screw in the counter-clockwise direction lowers the sterilizer pressure reading.

(12) Turn the adjusting screw of the pressure range potentiometer (2, Figure 4-28) in the clockwise or counter-clockwise direction until the reading on the PRESSURE (PSI) display matches the reading of the Pressure Gauge Test Harness within a tolerance of ±0.5 psi (3.5 kPa).

(13) Recheck the multimeter reading. It should still read 2.550 VDC ±0.001 VDC.

(14) Press the STOP button to end the test/calibration cycle and allow the sterilizer to vent and open its door (See Figure 4-27).

(15) Disconnect the leads of the multimeter from Test Points (A and B, Figure 4-28).

(16) Disconnect the power cord from the sterilizer and then repeat steps 3 and 4 of this procedure. The reading should read 0.1 psi (1 kPa) with the sterilizer door open. If not, repeat steps 5 and 6 of this procedure.

(17) Disconnect the power cord from sterilizer.

(18) Disconnect Pressure Gauge Test Harness from sterilizer (See Figure 4-29).

(19) Install right hand side panel.

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

# SECTION IV
# MAINTENANCE / SERVICE

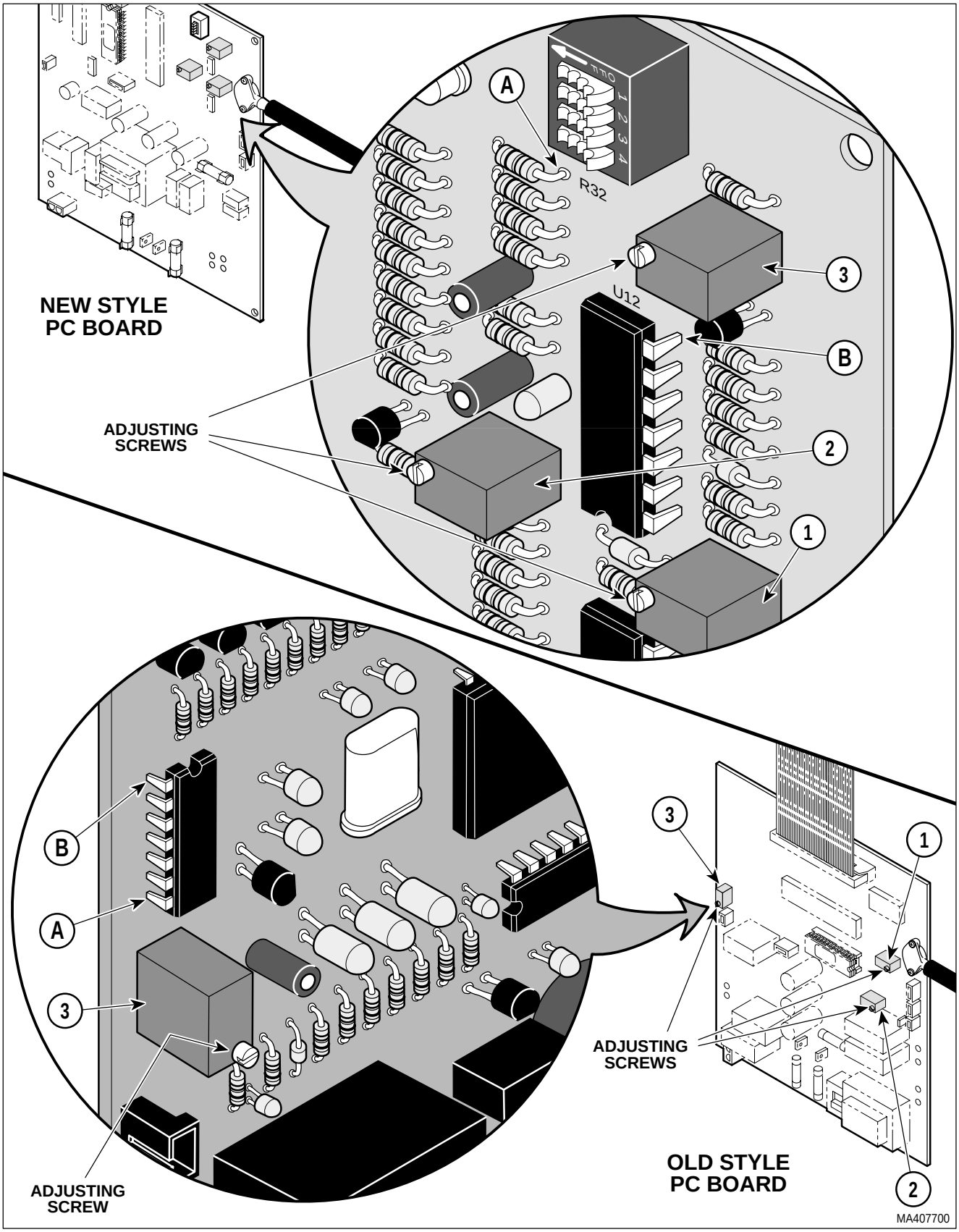
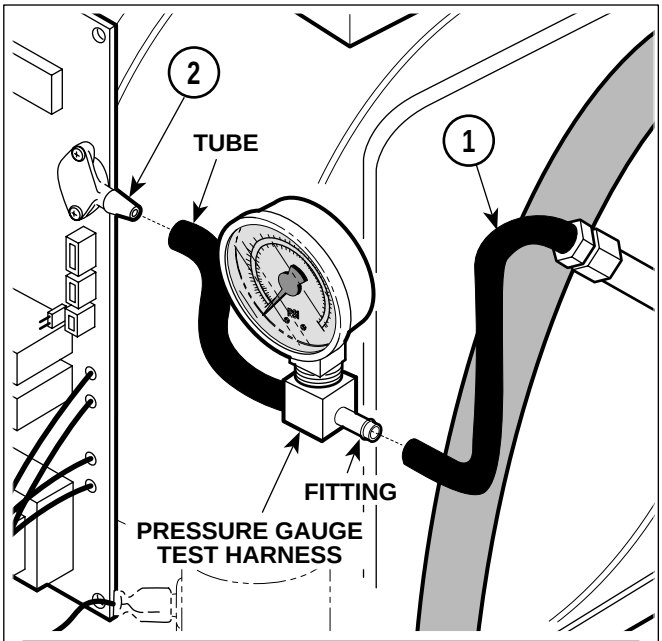



**Figure 4-28. Potentiometer Adjustments**

© Midmark Corporation 2002 SF-1827



Printed in U.S.A.




**To connect Pressure Gauge Test Harness to sterilizer:**

1. **Disconnect tube (1) from pressure sensor (2).**
2. **Connect tube of Pressure Guage Test Harness to pressure sensor (2).**
3. **Connect tube (1) to fitting of Pressure Guage Test Harness.**

**To disconnect Pressure Gauge Test Harness from sterilizer:**

1. **Disconnect tube (1) from fitting of Pressure Guage Test Harness.**
2. **Disconnect tube of Pressure Guage Test Harness from pressure sensor (2).**
3. **Connect tube (1) to pressure sensor (2).**

MA2070-01

**Figure 4-29. Connecting / Disconnecting Pressure Gauge Test Harness**

## 4.25 Display PC Board Lamp / Display / Button Check

(1) Disconnect power cord from the sterilizer.

(2) Press and hold down the LIQUIDS and PACKS buttons simultaneously, while connecting the power cord to the sterilizer (See Figure 4-30). Release the LIQUIDS and PACKS buttons.

(3) Observe the display PC board lamps. In a left to right sequence, each lamp on the display PC board should individually illuminate and then extinguish. If all the display PC board lamps do not illuminate and then extinguish, replace display PC board (Refer to para 4.21).

(4) Press and release the UNWRAPPED, POUCHES, LIQUIDS, PACKS, START, STOP, AND ON/STANDBY buttons one at a time and in this order.

(5) Observe the lamps that correspond with each button. If all lamps do not illuminate and stay illuminated when their corresponding button is pressed, replace the display PC board (Refer to para 4.21).

(6) Observe the pressure and temperature/time displays. If the pressure and temperature/time displays do not display pressure and temperature readings, replace the display PC board (Refer to para 4.21).

(7) Disconnect power cord from the sterilizer.

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

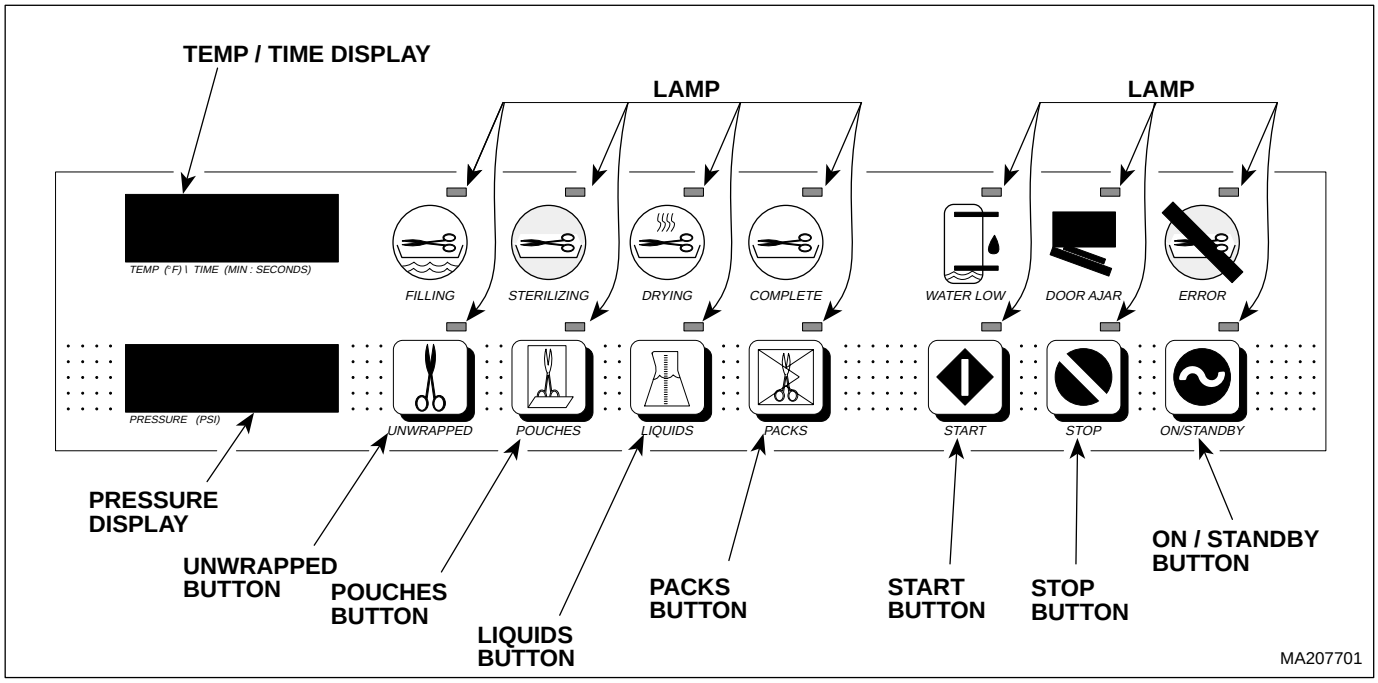



**Figure 4-30. Display PC Board Lamp / Display / Button Check *(M9 / M11 shown)***

## 4.26 Pressure Relief Valve Check

(1) Remove the top inspection cover (1, Figure 4-31).

**WARNING**
**Refer to the operator manual for complete instructions on operating the sterilizer. Failure to do so could result in severe personal injury.**

(2) Select the UNWRAPPED cycle and start the cycle.

**DANGER**
**Pressure Relief Valve will be hot. Use a screwdriver or rod to pull the wire ring. Do not pull the wire ring with bare hands or burns will result. Steam will be vented from under the rear of the sterilizer. To keep from being burned, place a steam barrier (a rolled up towel) around the bottom of the sterilizer.**

(3) When the "heat up" portion of the cycle is complete and the elapsed time is being counted down on the display PC board, pull on wire ring of pressure relief valve (2) with a screwdriver.

(4) If excessive force was required to open pressure relief valve (2), replace the pressure relief valve (Refer to para 4.23).

**NOTE**
If the pressure relief valve does not close completely when the wire ring is released, pull the wire ring again and release it quickly so the valve snaps back into position. Do this until the valve seats properly.

(5) Release wire ring of pressure relief valve (2). The steam should vent out of the pressure relief valve until the wire ring is released. When the wire ring is released, the valve should seat, stopping the release of steam.

(6) If the pressure relief valve (2) will not re-seat properly, replace the pressure relief valve (Refer to para 4.23).

(7) Install top inspection cover (1).

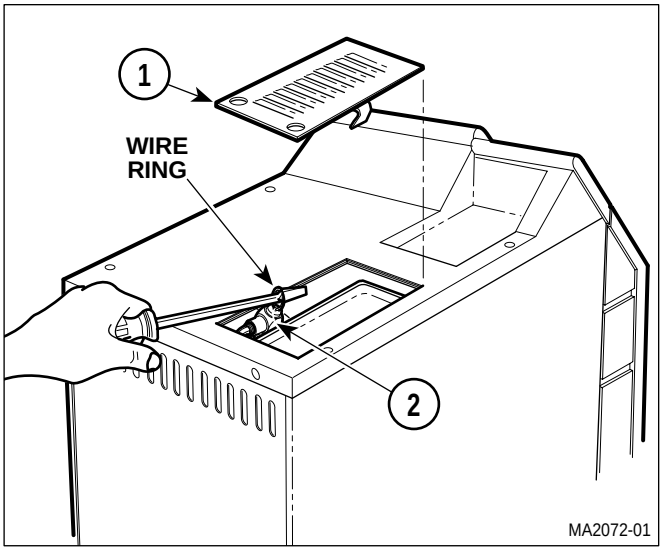



**Figure 4-31. Pressure Relief Valve Check**

## 4.27 Dry Cycle Dip Switches Adjustment

(1) Unplug power cord from outlet receptacle.

(2) Remove right hand side panel (Refer to para 4.3).

**NOTE**
There are four repeat interval dip switch settings; setting #1, setting #2, setting #3, and setting #4. The unit comes factory set at the repeat interval setting #3. Setting #1 is shortest repeat interval, setting #2 is longer, setting #3 is longer yet, and setting #4 is the longest repeat interval.

This procedure only applies to units with a new style control PC board; units with serial numbers: CZ2457, DA1005, DB1150, DX1970, DY1139, ES1347, ET1095, FD-1000, FP1000, FR1000, GB1000 and OM-9449 thru Present.

(3) If unit has has been overheating during the drying cycle and activating the overheat thermostat, determine the current repeat interval dip switch settings for the unit per Figure 4-32 and then change the dip switch settings to the next shortest repeat interval.

(4) Run a cycle. Repeat step 3 if overheat thermostat activates again.

(5) Install right hand side panel (Refer to para 4.3).

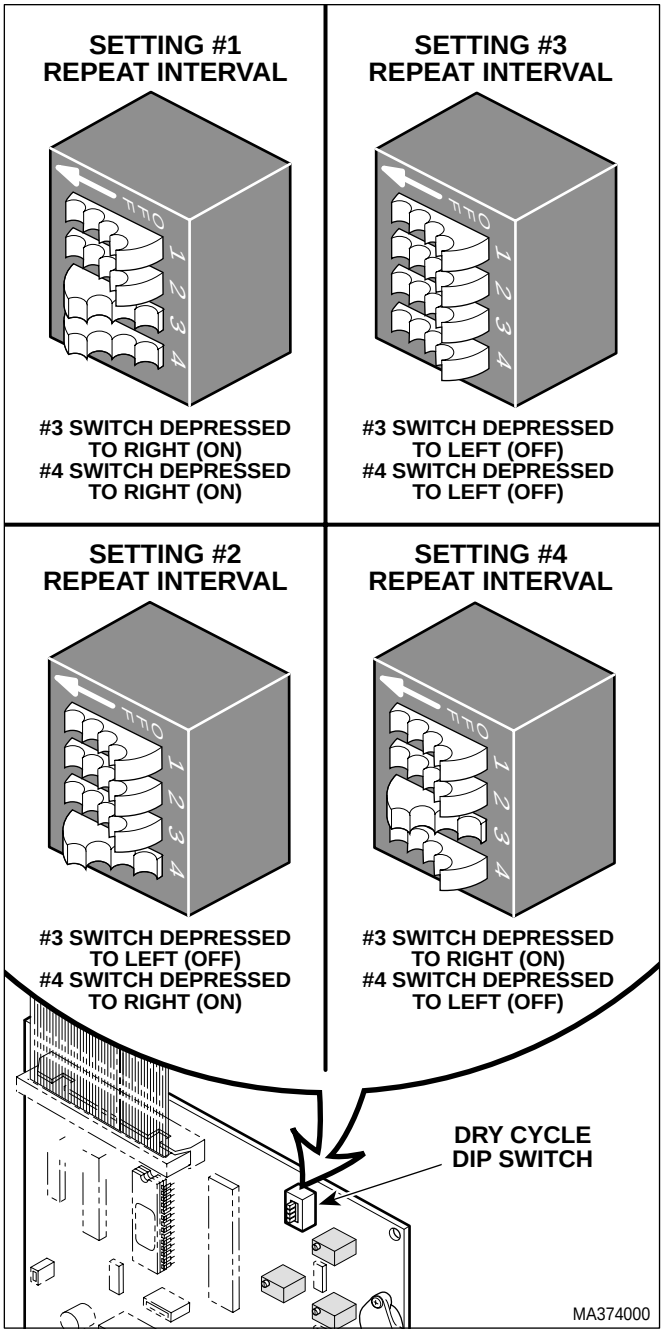



**Figure 4-32. Dry Cycle Dip Switches Adjustment**

## 4.28 M9 / M11 Door Opening Test

**NOTE**
This test applies only to units with newer style PC boards.

(1) Fill chamber with water. *[To do this, start any cycle. After chamber has filled with water, the Sterilizing LED will illuminate]*.

(2) Disconnect power cord.

(3) Open door.

(4) Press and hold **STOP** & **POUCHES** buttons (see Figure 4-33) while plugging in power cord.

(5) Press and release all buttons from left to right across display panel.

(6) Close door. *[This will activate all relays in the sterilizer in sequence. Pulse solenoind should automatically open door when test cycle is complete].*

(7) To rerun test, repeat steps 2 thru 6.

(8) To verify proper operation, run a complete cycle when test is complete.

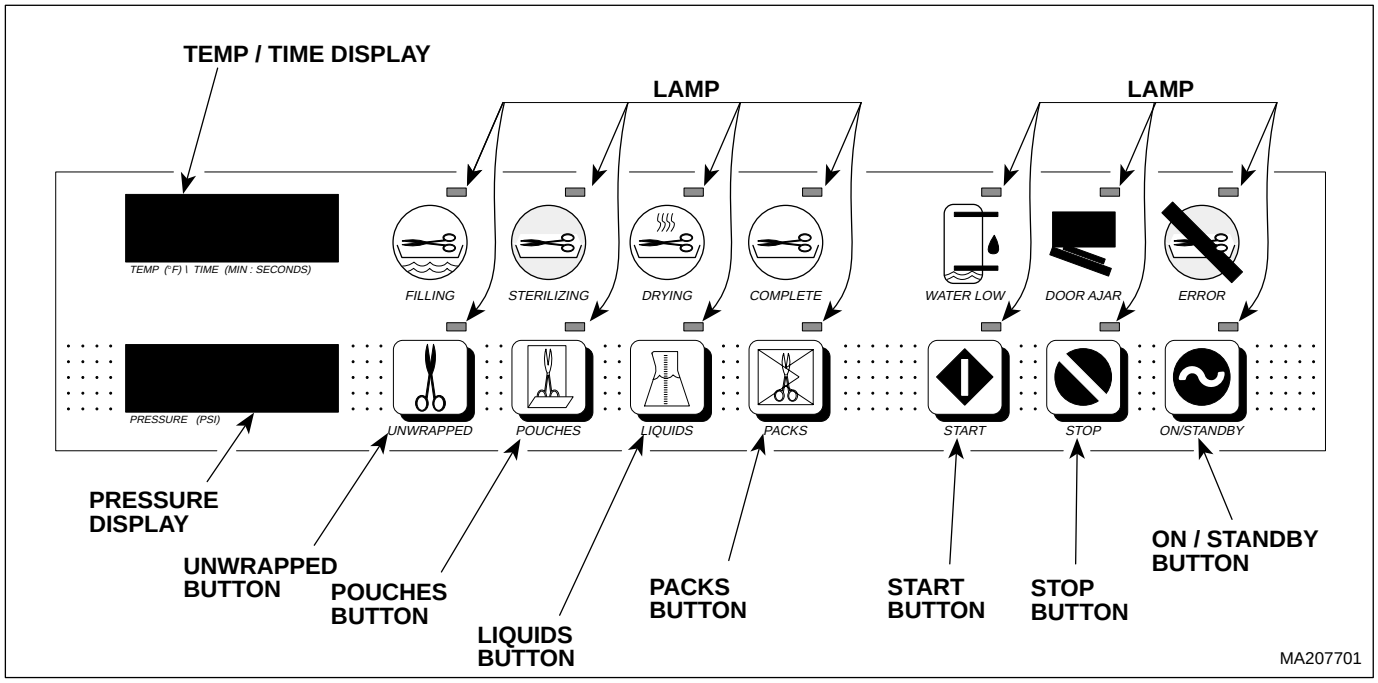



**Figure 4-33. M9 / M11 Door Opening Test**

# SECTION V
# SCHEMATICS AND DIAGRAMS

## 5.1 Wiring Diagrams

Figure 5-1 (sheets 1 thru 3) illustrate the wiring connections for the M9 sterilizer.

Figure 5-2 (sheets 1 & 2) illustrate the wiring connections for the M9D sterilizer.

Figure 5-3 (sheets 1 thru 3) illustrate the wiring connections for the M11 sterilizer.

Figure 5-4 (sheets 1 & 2) illustrate the wiring connections for the M11D sterilizer.

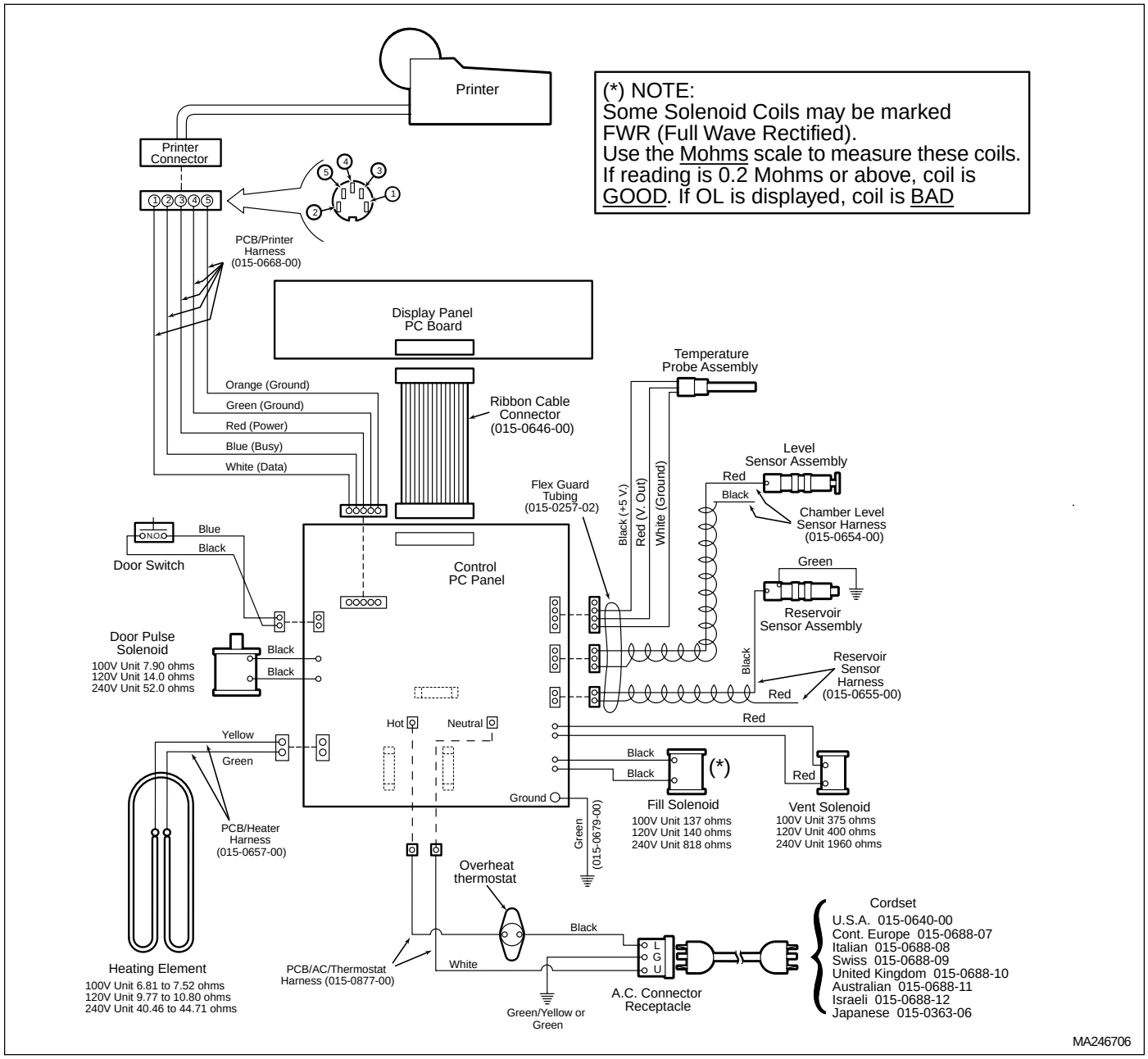



**Figure 5-1 (Sheet 1 of 3). M9 Wiring Diagram**
**(Applies To Serial Numbers CZ1000 thru CZ1684, DB1000 thru DB1010, OM1000 thru OM5130, DX1000 thru DX1170, DA1000 thru DA1001, and DY1000 thru DY1007)**

# SECTION V
# SCHEMATICS AND DIAGRAMS

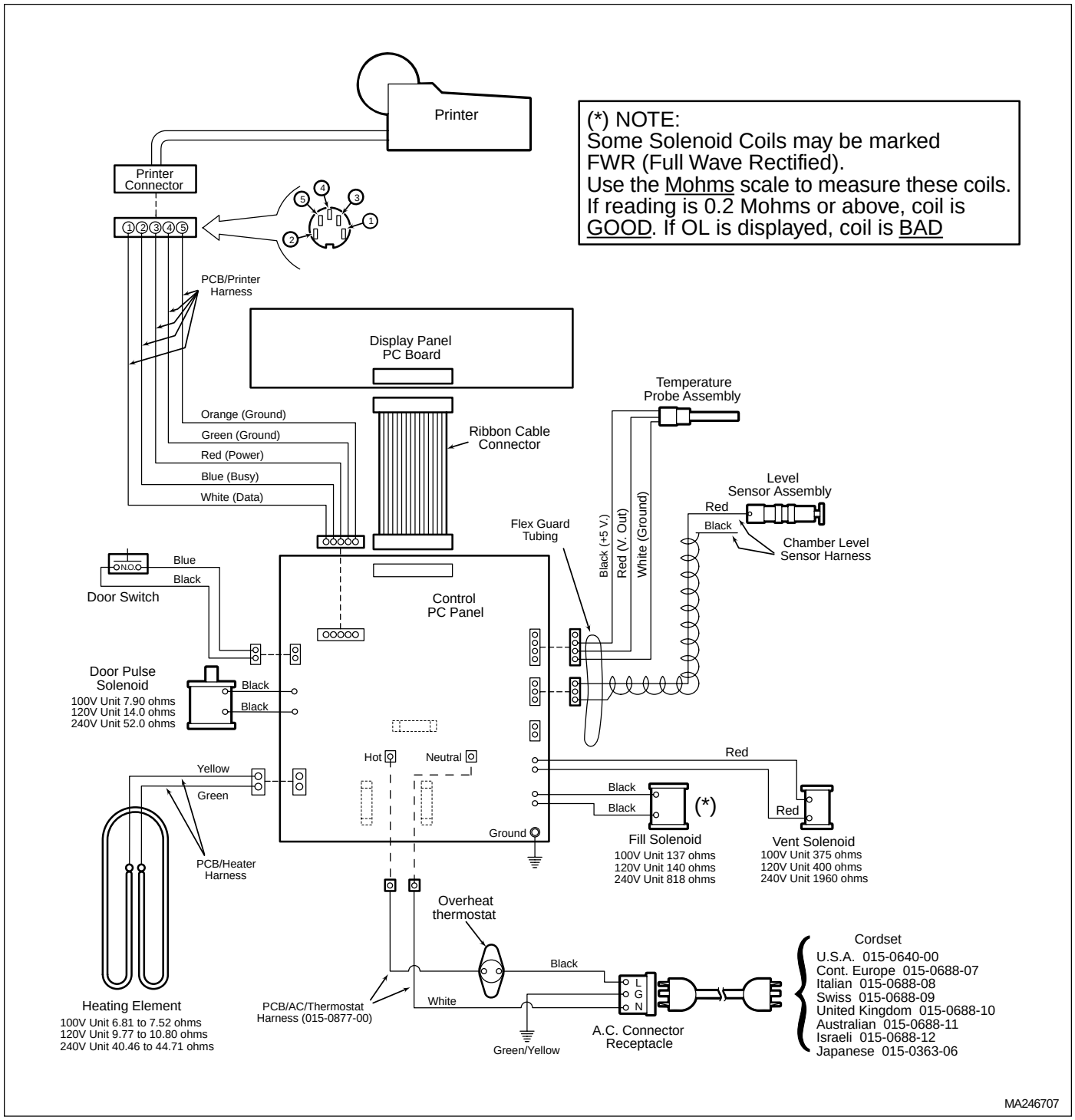



**Figure 5-1 (Sheet 2 of 3) M9 Wiring Diagram**
**(Applies To Serial Numbers CZ1685 thru CZ4590, DB1011 thru DB1149, OM5131 thru OM14723, DX1171 thru DX1969, DA1002 thru DA1004, and DY1008 thru DY1138)**

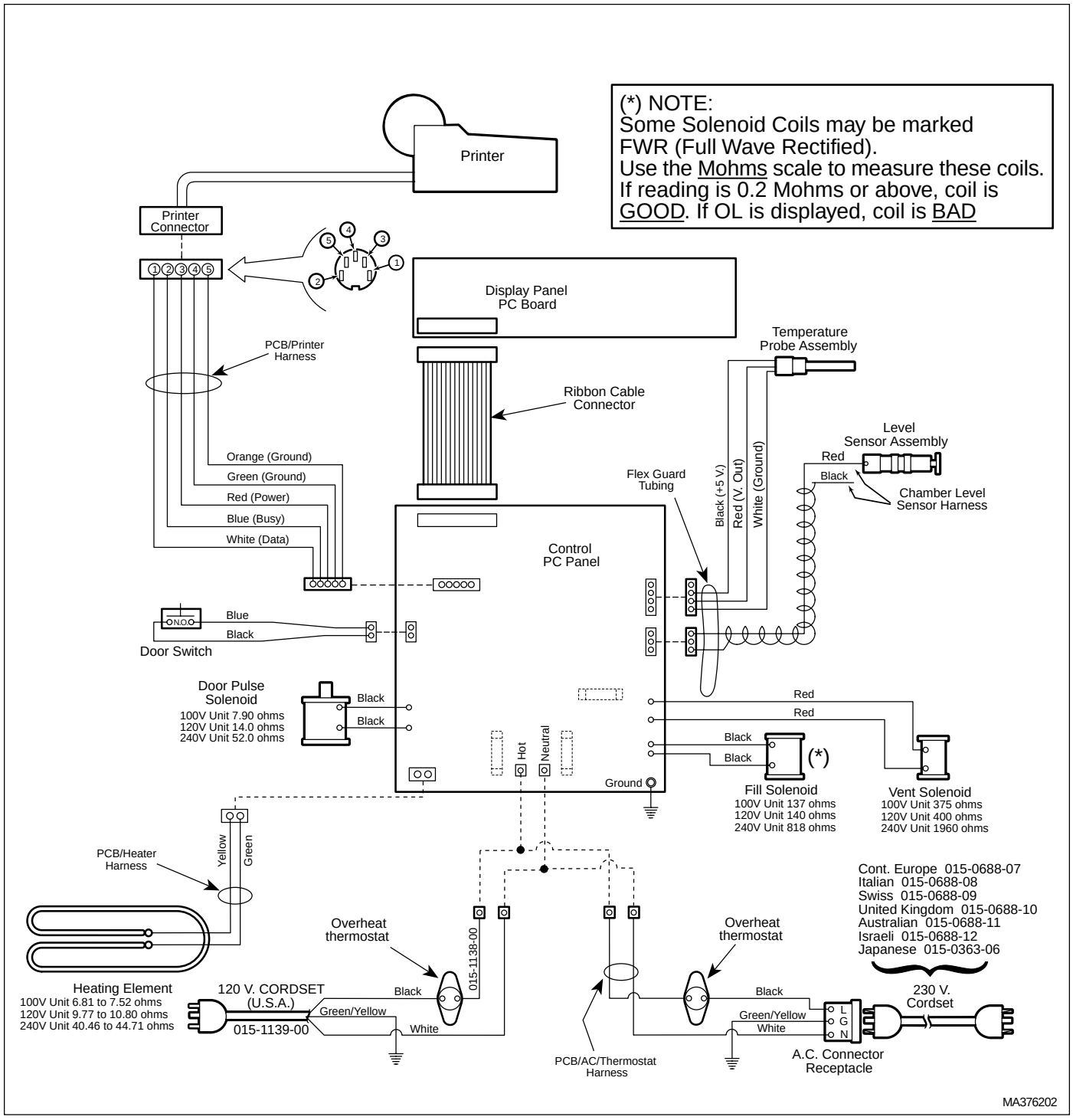



**Figure 5-1 (Sheet 3 of 3) M9 Wiring Diagram**
**(Applies To Serial Numbers CZ4591 thru Present, DA1005 thru Present, DB1150 thru Present, DX1970 thru Present, DY1139 thru Present, FD1000 thru Present, and OM14724 thru Present)**

# SECTION V
# SCHEMATICS AND DIAGRAMS

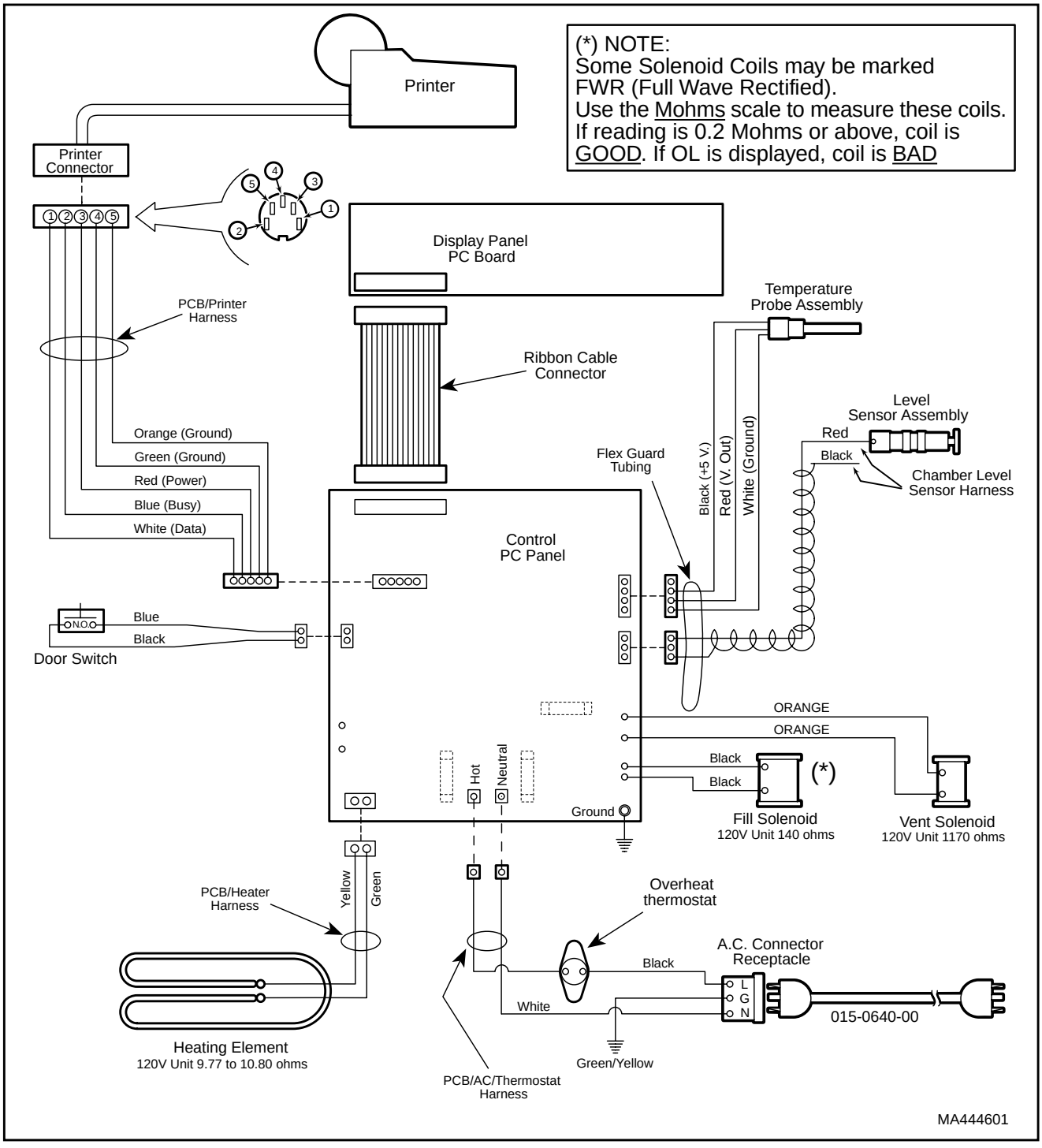



**Figure 5-2 (Sheet 1 of 2) M9D Wiring Diagram**
**(Applies To Serial Numbers FF1000 thru FF1054, FG1000 thru FG1137)**

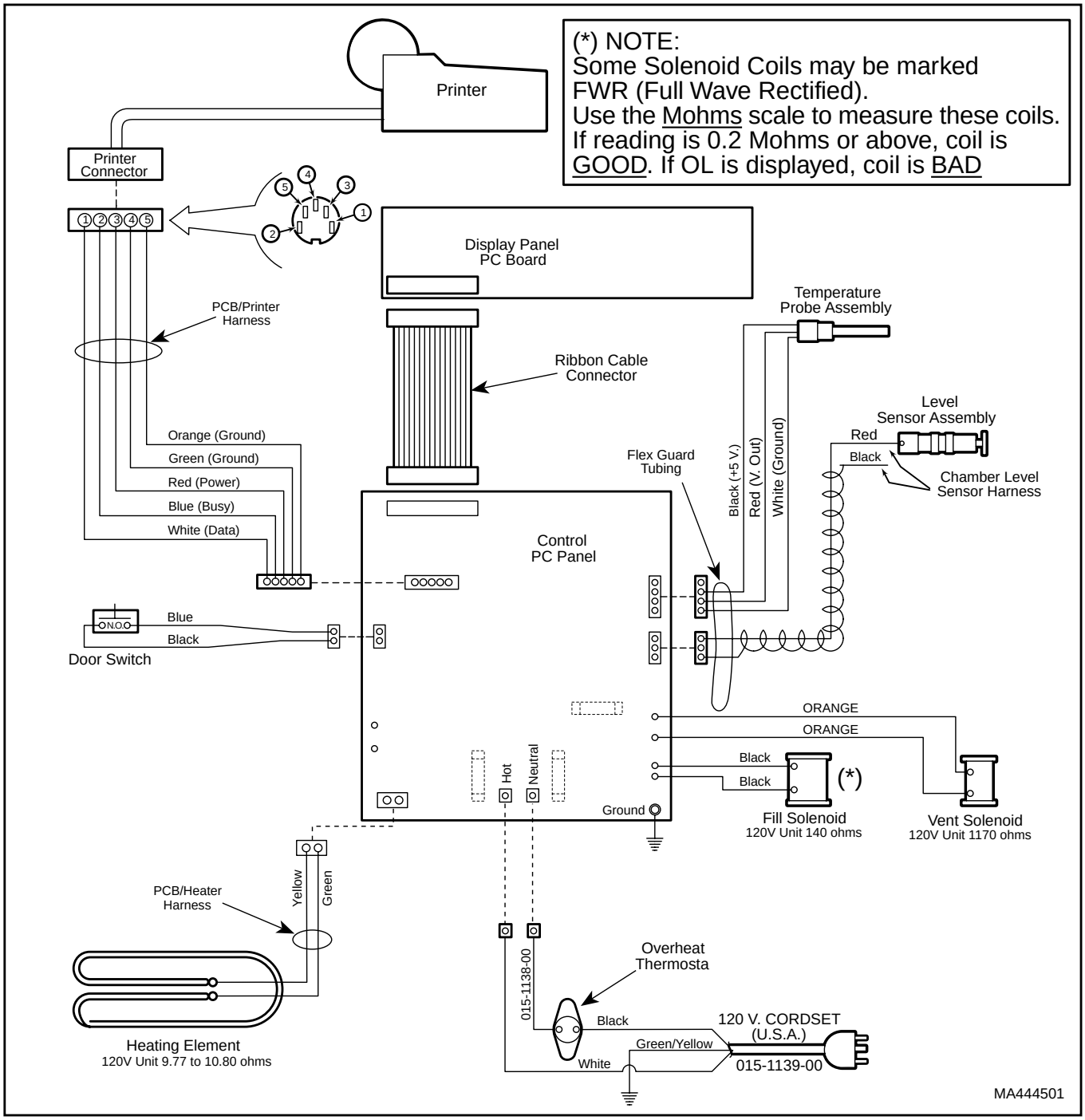



**Figure 5-2 (Sheet 2 of 2) M9D Wiring Diagram**
**(Applies To Serial Numbers FF1055 thru Present and FG1138 thru Present)**

# SECTION V
# SCHEMATICS AND DIAGRAMS

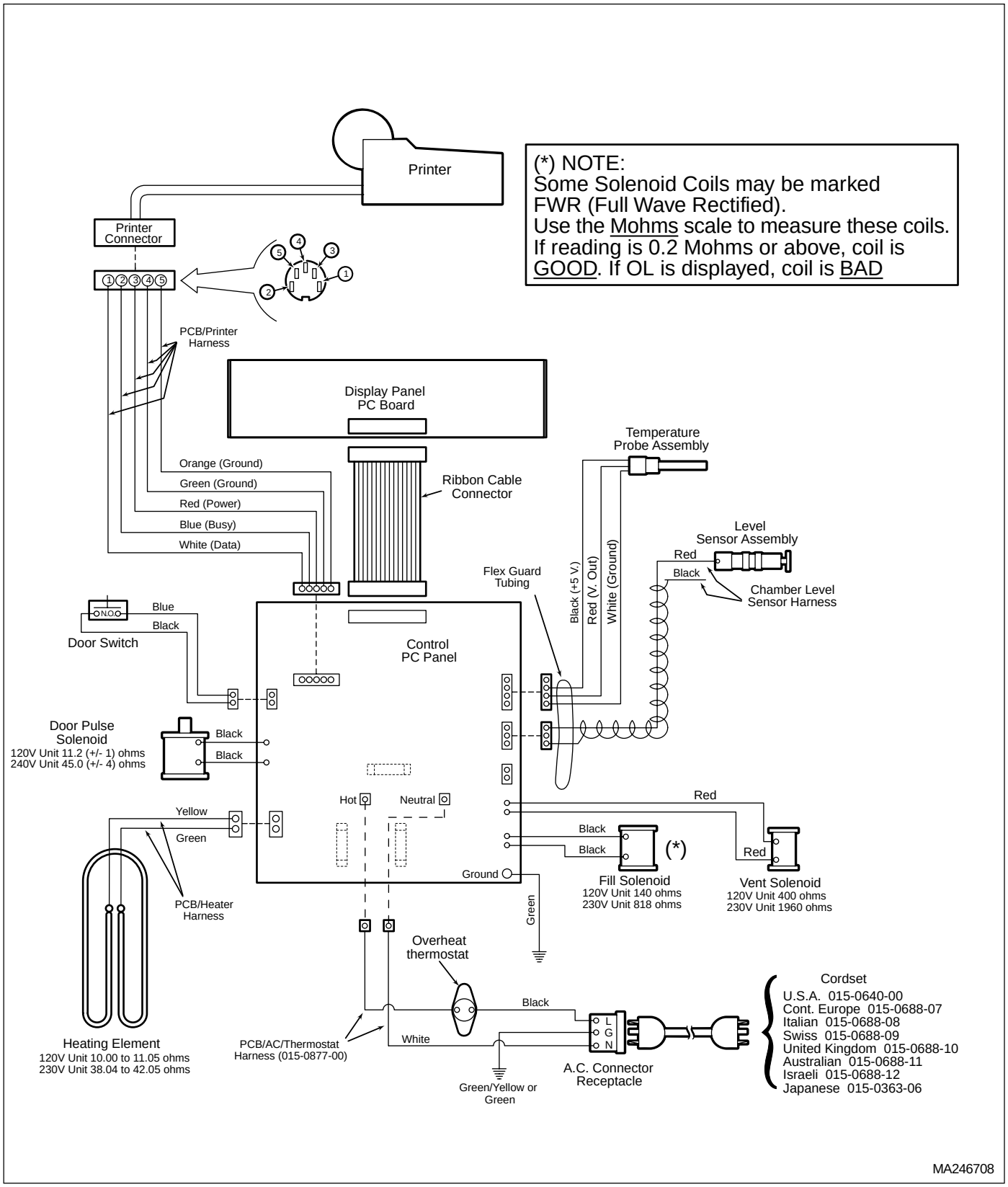



**Figure 5-3. (Sheet 1 of 3) M11 Wiring Diagram**
**(Applies to Units With Serial Numbers ES-1000 Thru ES-1346 And ET-1000 Thru ET1094)**

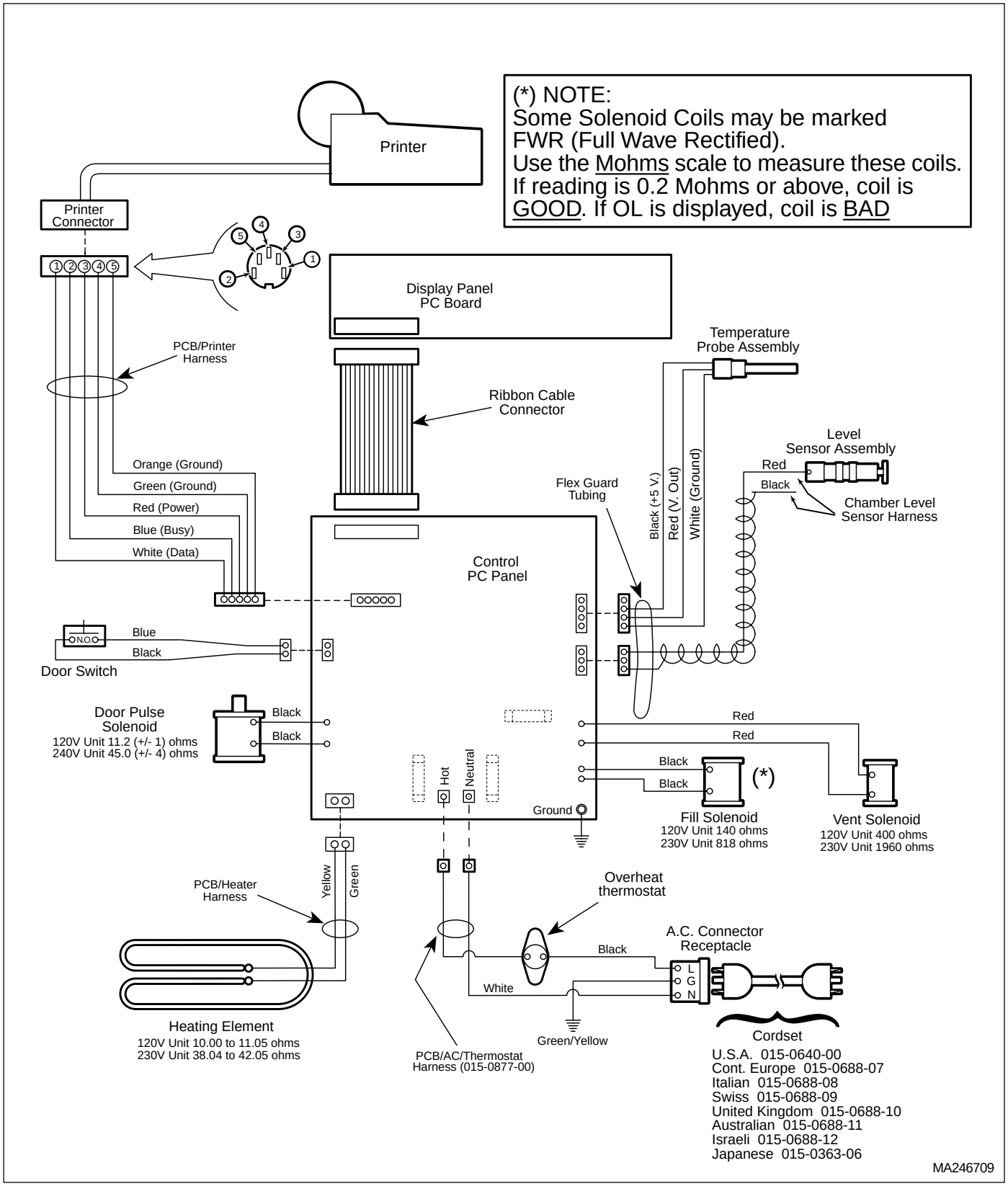



**Figure 5-3. (Sheet 2 of 3) M11 Wiring Diagram**
**(Applies to Units With Serial Numbers ES1347 thru ES3020 and ET1095 thru ET3317)**

# SECTION V
# SCHEMATICS AND DIAGRAMS

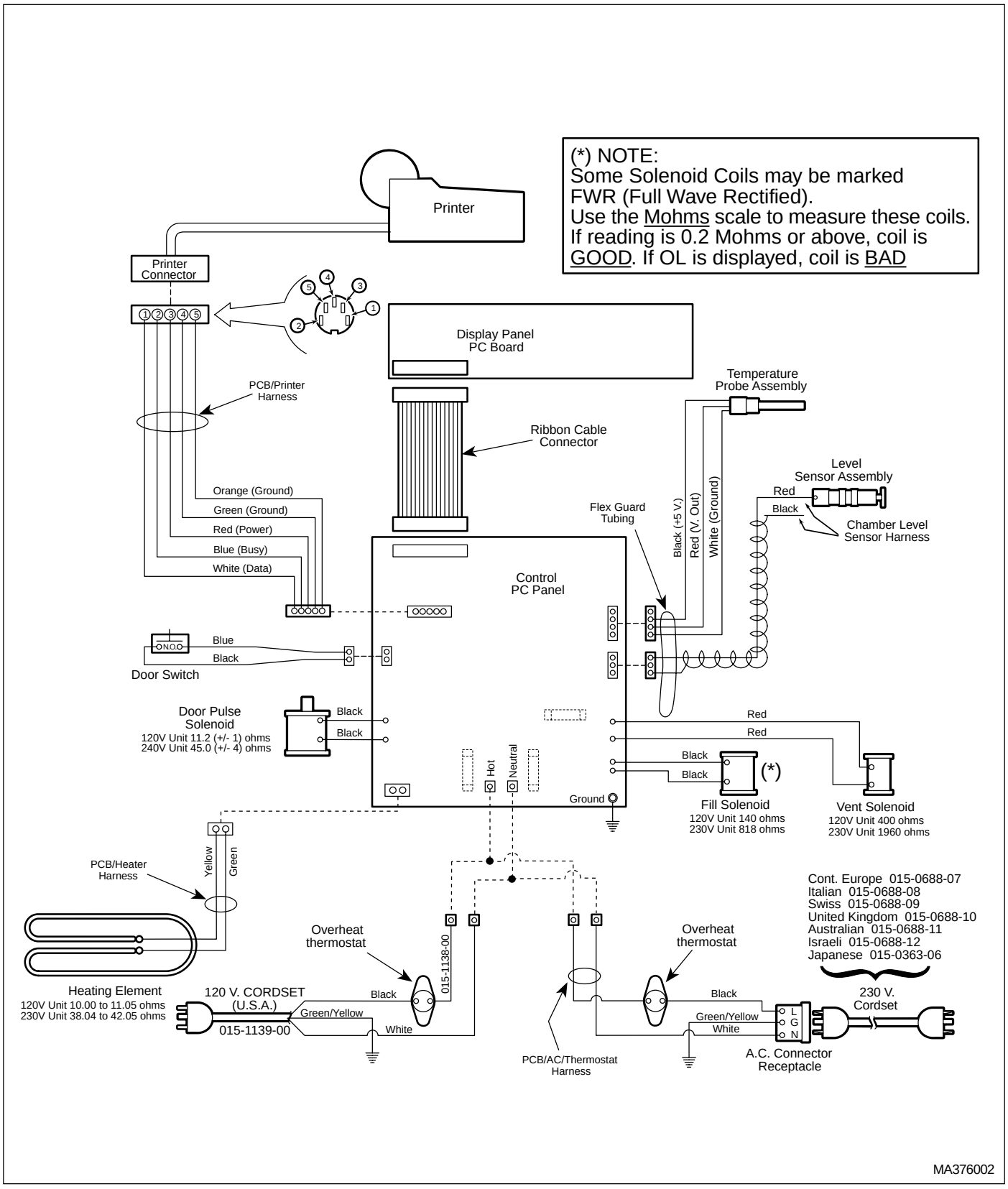



**Figure 5-3. (Sheet 3 of 3) M11 Wiring Diagram**
**(Applies to Units With Serial Numbers ES3021, ET3318, FP1000, FR1000, and GB1000 Thru Present)**

© Midmark Corporation 2002 

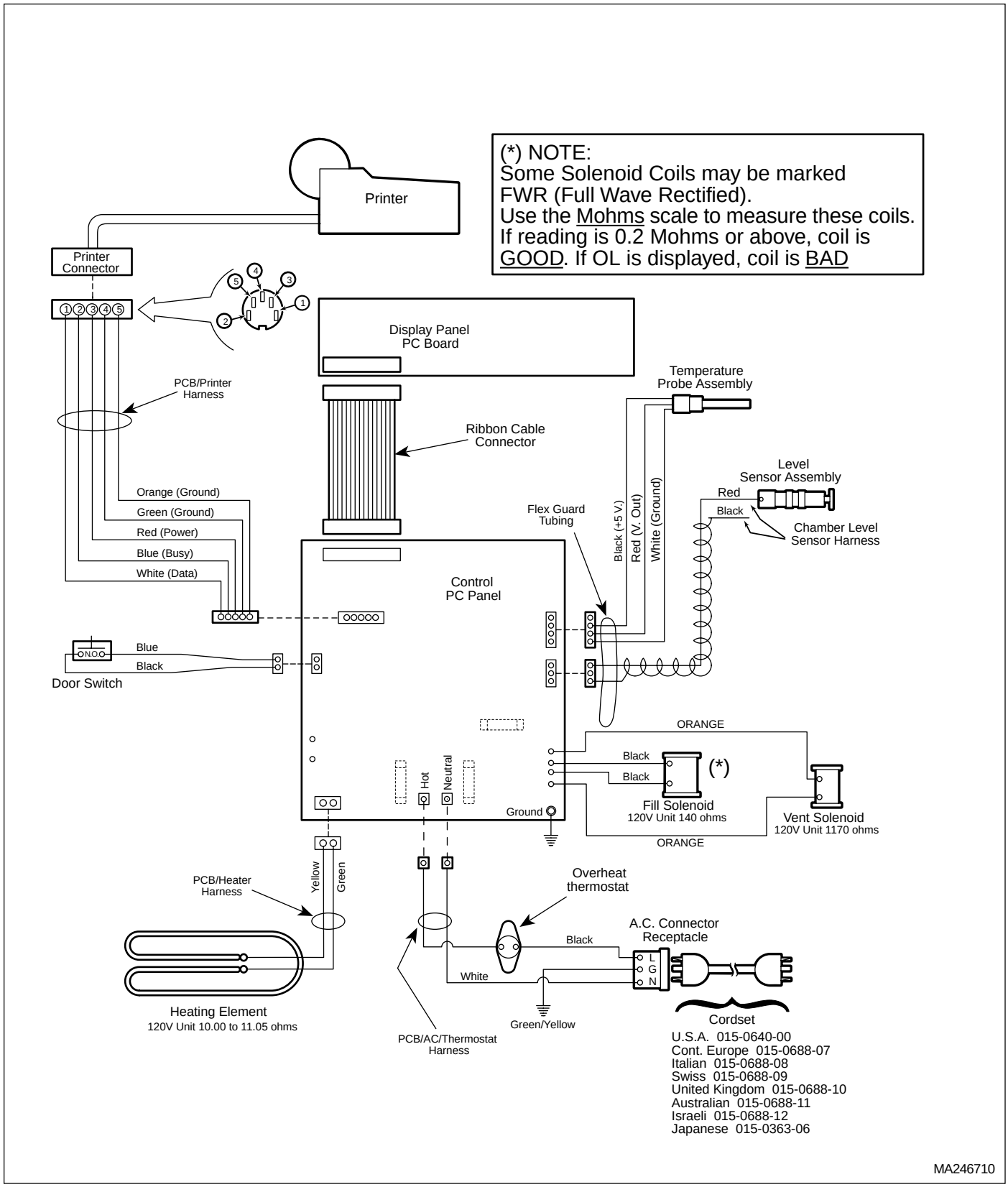



**Figure 5-4. (Sheet 1 of 2) M11D Wiring Diagram**
**(Applies to Units With Serial Numbers GC1000 thru GC1018 and GD1000 Thru GD1015)**

# SECTION V
# SCHEMATICS AND DIAGRAMS

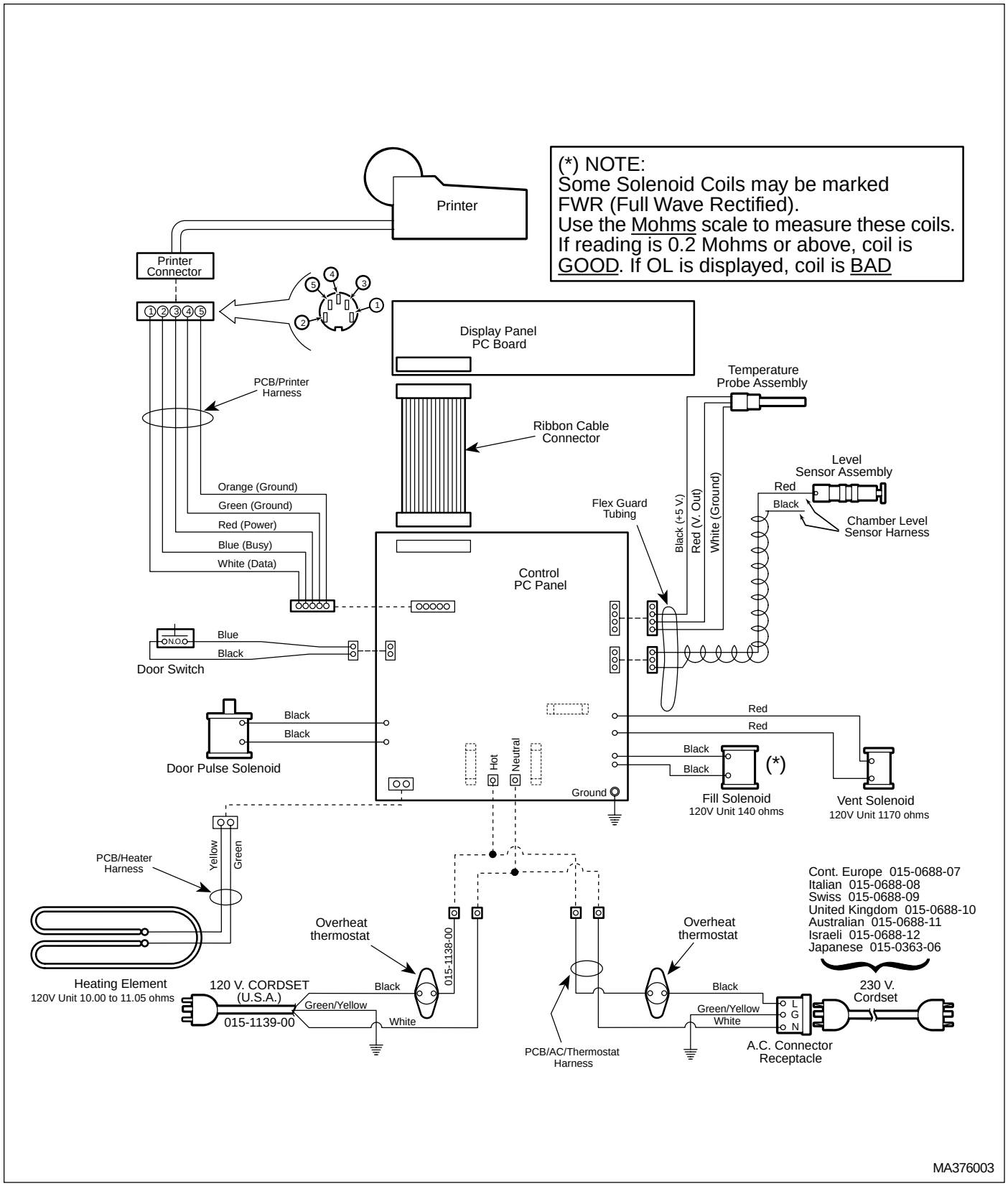



**Figure 5-4. (Sheet 2 of 2) M11D Wiring Diagram**
**(Applies to Units With Serial Numbers GC1019, and GD1016 Thru Present)**

## 5.2 Flow Diagram

Figure 5-5 illustrates the water, heated water, steam, and vented steam/water flow throughout the sterilizer during a cycle.

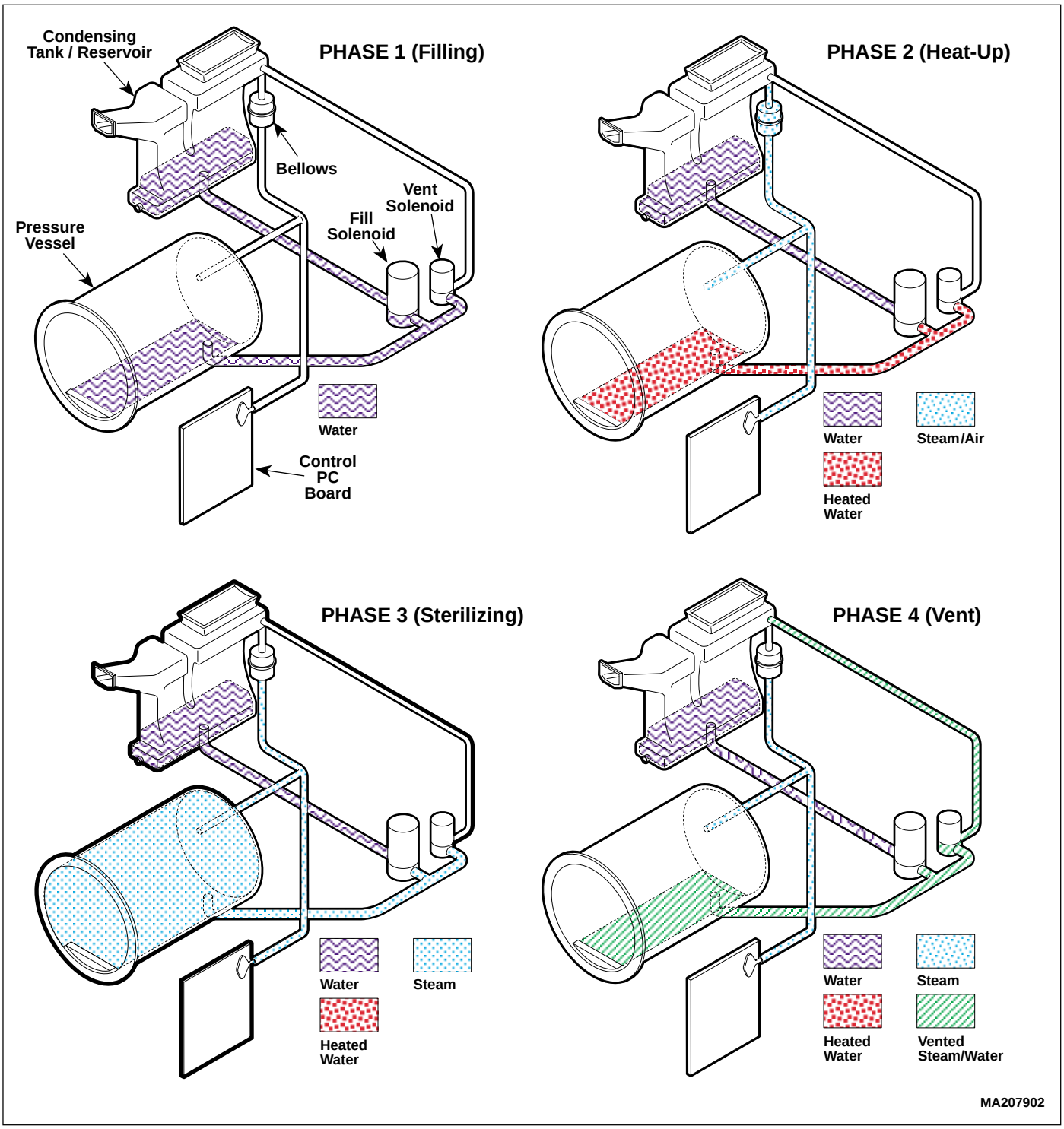



**Figure 5-5. Flow Diagram**

# SECTION V
# SCHEMATICS AND DIAGRAMS

## 5.3 Pressure / Temperature Chart

Table 5-1 is a chart which lists what pressure should be present at particular temperature.

**Table 5-1. Pressure / Temperature Chart**

| PSI | °C | °F | PSI | °C | °F |
|---|---|---|---|---|---|
| 0 | 100.0 | 212.0 | 16 | 122.0 | 251.6 |
| 1 | 101.9 | 215.4 | 17 | 123.0 | 253.4 |
| 2 | 103.6 | 218.5 | 18 | 124.1 | 255.4 |
| 3 | 105.3 | 221.5 | 19 | 125.0 | 257.0 |
| 4 | 106.9 | 224.4 | 20 | 126.0 | 258.8 |
| 5 | 108.4 | 227.1 | 21 | 126.9 | 260.0 |
| 6 | 109.8 | 229.6 | 22 | 127.8 | 262.0 |
| 7 | 11.3 | 232.3 | 23 | 128.7 | 263.7 |
| 8 | 112.6 | 234.7 | 24 | 129.6 | 265.3 |
| 9 | 113.9 | 237.0 | 25 | 130.4 | 266.7 |
| 10 | 115.2 | 239.4 | 26 | 131.3 | 268.3 |
| 11 | 116.4 | 241.5 | 27 | 132.1 | 269.8 |
| 12 | 117.6 | 243.7 | 28 | 132.9 | 271.2 |
| 13 | 118.8 | 245.8 | 29 | 133.7 | 272.7 |
| 14 | 119.9 | 247.8 | 30 | 134.5 | 274.1 |
| 15 | 121.0 | 249.8 | | | |

Normal steam sterilizing range is 250 °F to 270 °F.

Figures in chart are for steam pressure only. The presence of any air in the autoclave invalidates temperature readings.

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

# SECTION VI
# PARTS LIST

## 6.1 Description of Bullets

If a component has a bullet [ • ] in the *Part No.* column and the *Description* column, it is a subcomponent of an assembly in the parts list.

## 6.2 Torque Specifications and Important Assembly Notes

Required torque specifications, measurements, and procedures will be noted on the parts illustrations. Adherence to these requirements is essential.

# Attention!

The Parts Lists in this manual are separated as shown below. Verify model number, then refer to appropriate pages.

**M9 / M9D** ..... Pages 6-2 thru 6-16

**M11 / M11D** ..... Pages 6-17 thru 6-31

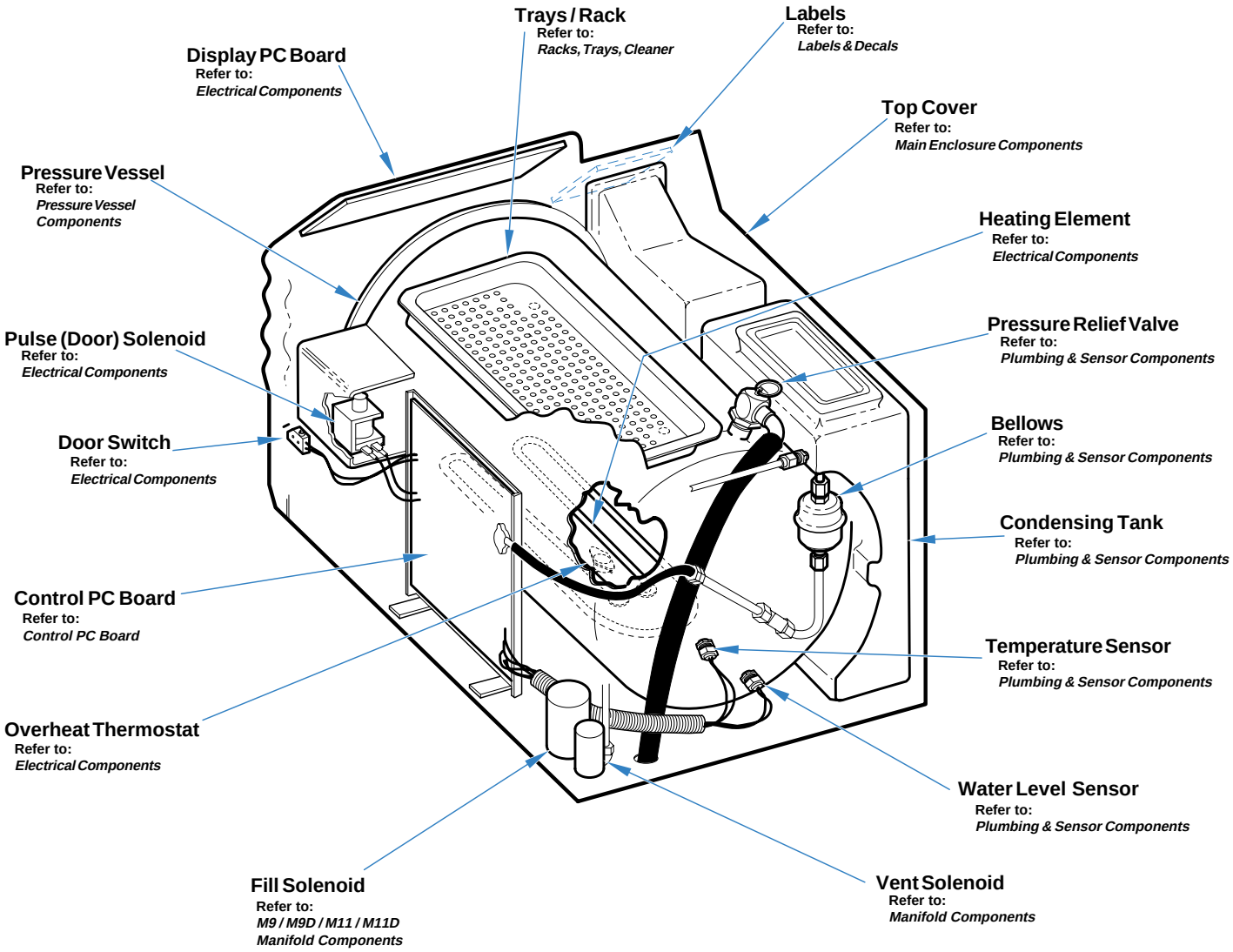
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# M9 Component / Page Cross-Reference






MA600700i


| Item | Model No. | Description | Page |
|---|---|---|---|
| | M9-001 | Ritter M9 Ultraclave (115 VAC) *[serial number prefix "OM"]* | 6-2 |
| | M9-002 | Ritter M9 Ultraclave (230VAC) *[serial number prefix "DY"]* | 6-2 |
| | M9-003 | Midmark M9 Ultraclave (115 VAC) *[serial number prefix "CZ"]* | 6-2 |
| | M9-004 | Midmark M9 Ultraclave (230 VAC) *[serial number prefix "DX"]* | 6-2 |
| | M9-005 | Ritter M9 Ultraclave (100 VAC) *[serial number prefix "DB"]* | 6-2 |
| | M9-006 | Ritter M9 Ultraclave (100VAC) *[serial number prefix "DA"]* | 6-2 |
| | M9-007 | EMS M9 Ultraclave (230 VAC) *[serial number prefix "FD"]* | 6-2 |
| | M9-008 | Dabi Atlante M9 Ultraclave (115 VAC) *[serial number prefix "FK"]* | 6-2 |
| | M9-009 | Dabi Atlante M9 Ultraclave (230 VAC) *[serial number prefix "FL"]* | 6-2 |
| | M9-010 | Polish M9 Ultraclave (230 VAC) *[serial number prefix "LA"]* | 6-2 |


**Always Specify Model & Serial Number**

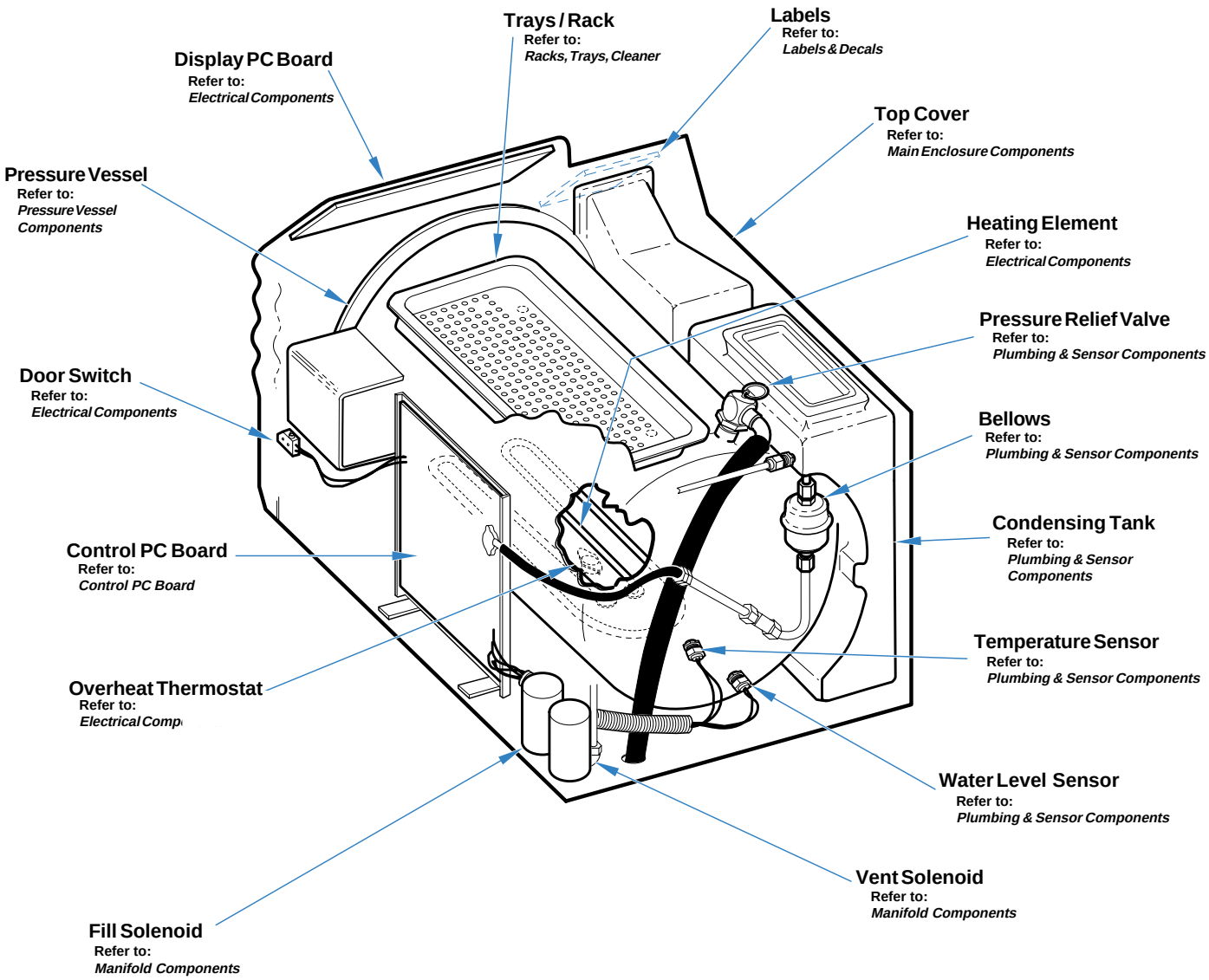
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# M9D Component / Page Cross-Reference






MA600800i

| Item | Model No. | Description | Page | Item | Model No. | Description | Page |
|---|---|---|---|---|---|---|---|
| | M9D-001 | Ritter M9D Ultraclave (115 VAC) *[serial number prefix "FF"]* | 6-3 | | M9D-002 | Midmark M9D Ultraclave (115 VAC) *[serial number Prefix "FG"]* | 6-3 |

**Always Specify Model & Serial Number**

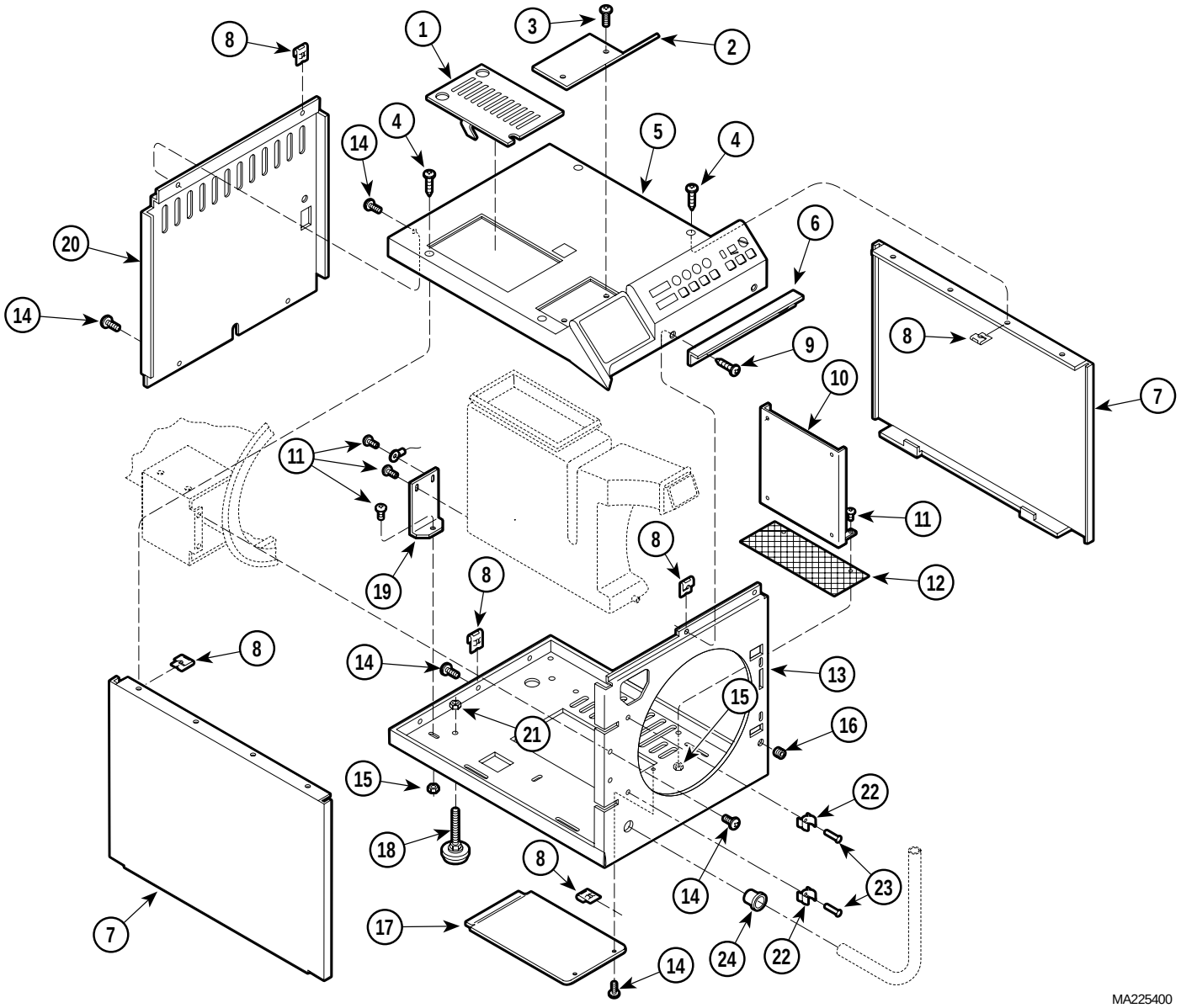
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Main Enclosure Components






**Used on units with Serial Numbers:**
**CZ1000 thru CZ1456 OM1000 thru OM3287**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 030-0765-10 | Top Inspection Cover | 1 |
| 2 | 050-1775-10 | Cover Plate - Printer | 1 |
| 3 | 040-0008-37 | Screw | 2 |
| 4 | 040-0010-88 | Screw | 4 |
| 5 | 002-0356-00 | Top Cover | 1 |
| 6 | 050-2034-00 | Top Cover Steam Block | 1 |
| 7 | 050-1767-10 | Side Panel | 2 |
| 8 | H352623 | Tinnerman Clip | 12 |
| 9 | 040-0010-95 | Screw | 2 |
| 10 | 050-1777-00 | Control PCB Bracket | 1 |
| 11 | 040-0010-75 | Screw | 5 |
| 12 | 016-0428-01 | Screen | 1 |
| 13 | 050-2346-00 | Base | 1 |
| 14 | 040-0010-18 | Screw | 11 |
| 15 | 041-0010-04 | Nut - w/Starwasher | 3 |
| 16 | 053-0394-00 | Grommet (Early Units Only) | 1 |
| 17 | 050-4326-01 | Base Inspection Cover | 1 |
| 18 | 016-0404-00 | Leveler Foot | 4 |
| 19 | 050-1778-00 | Bracket | 1 |
| 20 | 050-1766-10 | Back Panel | 1 |
| 21 | 041-0312-05 | Lock Nut | 4 |
| 22 | 053-0388-01 | Hose Clip | 2 |
| 23 | 042-0010-21 | Pop Rivet | 2 |
| 24 | 053-0068-11 | Strain Relief Bushing | 1 |

**Always Specify Model & Serial Number**

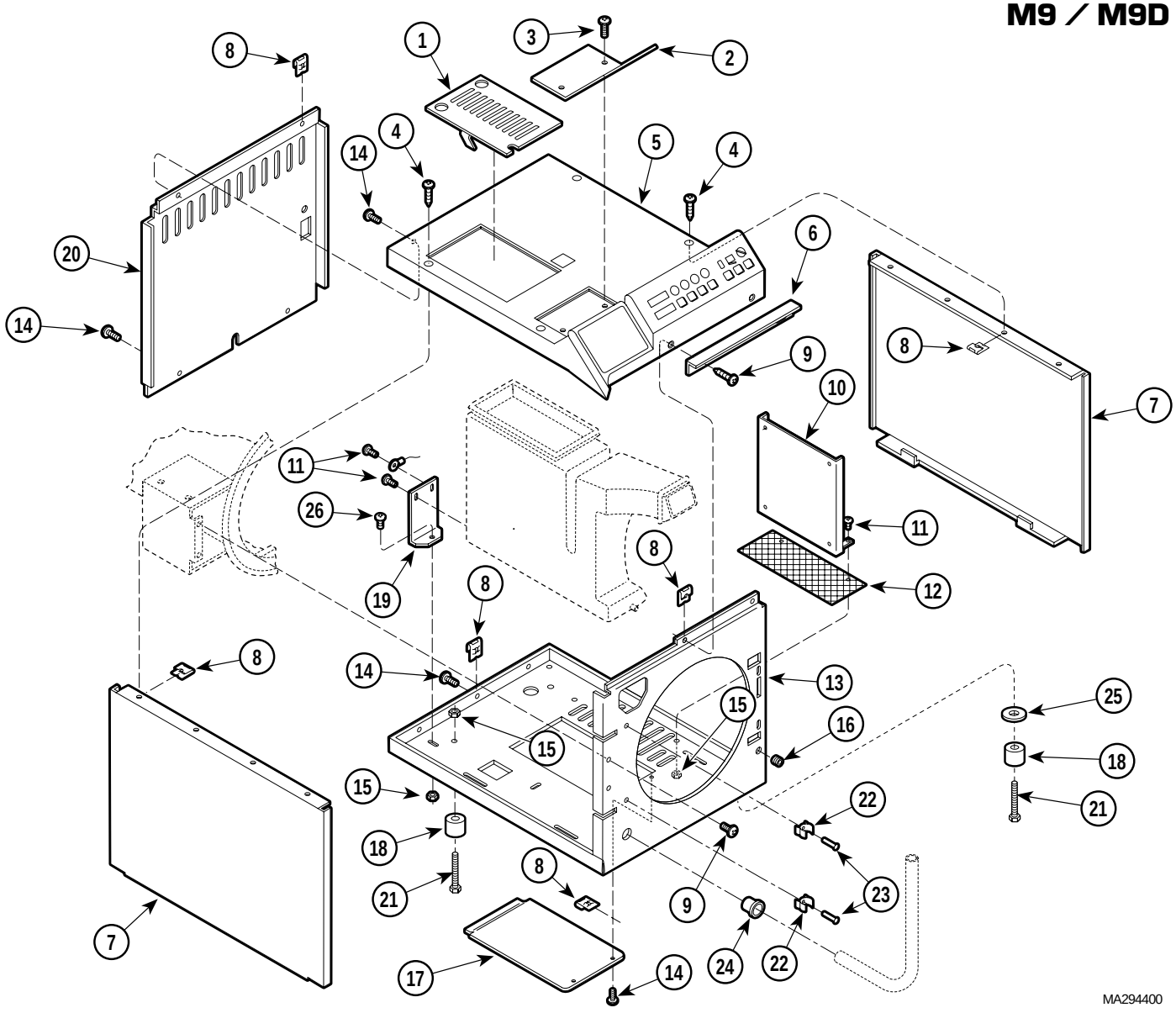
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Main Enclosure Components






**Used on units with Serial Numbers:**

**CZ1457 thru CZ2753 DA1000 thru DA1004 DB1000 thru DB1149 DX1000 thru DX2131**
**DY1000 thru DY1149 FD1000 thru FD1099 OM3288 thru OM10596**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 030-0765-10 | Top Inspection Cover | 1 |
| 2 | 050-1775-10 | Cover Plate - Printer | 1 |
| 3 | 040-0008-50 | Screw | 2 |
| 4 | 040-0010-88 | Screw | 4 |
| 5 | 002-0356-00 | Top Cover (Domestic - English) | 1 |
| | 002-0356-01 | Top Cover (Metric - English) | 1 |
| 6 | 050-2034-00 | Top Cover Steam Block | 1 |
| 7 | 050-1767-10 | Side Panel | 2 |
| 8 | H352623 | Tinnerman Clip | 13 |
| 9 | 040-0010-95 | Screw | 6 |
| 10 | 050-1777-00 | Control PCB Bracket | 1 |
| 11 | 040-0010-75 | Screw | 3 |
| 12 | 016-0428-01 | Screen | 1 |
| 13 | 050-2518-00 | Base | 1 |
| 14 | 040-0010-18 | Screw | 7 |
| 15 | 041-0010-04 | Nut - w/Starwasher | 3 |
| 16 | 053-0394-00 | Grommet (Early Units Only) | 1 |
| 17 | 050-4326-01 | Base Inspection Cover | 1 |
| 18 | 016-0523-00 | Leveler Foot | 4 |
| 19 | 050-1778-00 | Bracket | 1 |
| 20 | 050-1766-10 | Back Panel | 1 |
| 21 | 040-0010-43 | Screw | 4 |
| 22 | 053-0388-01 | Hose Clip | 2 |
| 23 | 042-0010-21 | Pop Rivet | 2 |
| 24 | 053-0068-11 | Strain Relief Bushing | 1 |
| 25 | 045-0001-00 | Washer | 4 |
| 26 | 040-0010-74 | Screw | 2 |

**Always Specify Model & Serial Number**

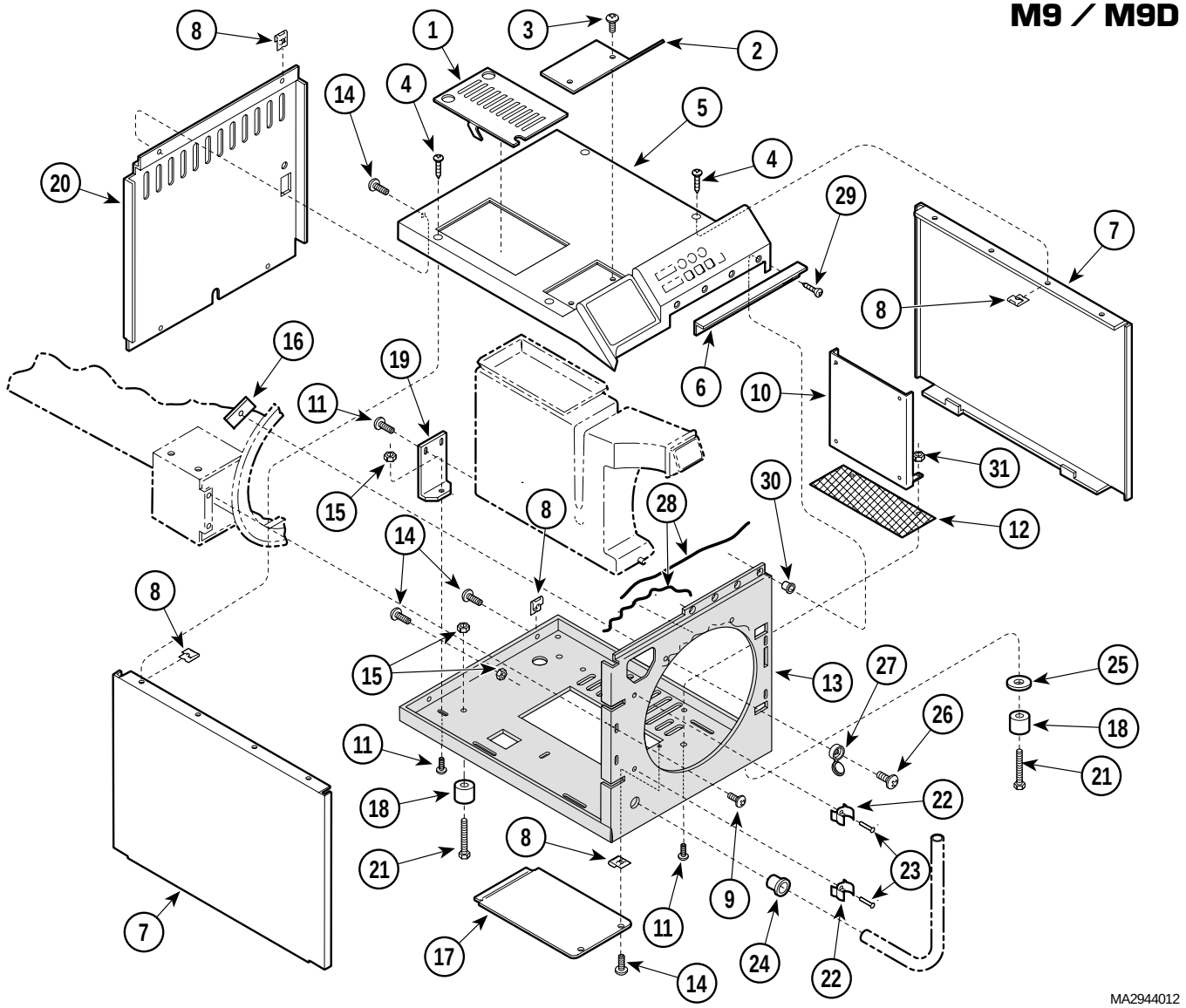
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Main Enclosure Components






MA2944012

**Used on units with Serial Numbers:**

**CZ2754 thru CZ4530 DB1150 thru DB1237 DX2132 thru DX2588 DY1150 thru DY1178**
**FD1100 thru FD1499 FF1000 thru FF1039 FG1000 thru FG1127 FK1000 thru FK1749**
**FL1000 thru FL1474 OM10597 thru OM14666**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 030-1117-00 | Top Inspection Cover | 1 |
| 2 | 050-1775-00 | Cover Plate - Printer | 1 |
| 3 | 040-0008-50 | Screw | 2 |
| 4 | 040-0010-88 | Screw | 4 |
| 5 | 002-0356-00 | Top Cover (Domestic - English) | 1 |
| | 002-0356-01 | Top Cover (Metric - English) | 1 |
| | 002-0356-02 | Top Cover (Metric - French) | 1 |
| 6 | 050-2034-00 | Top Cover Steam Block | 1 |
| 7 | 050-1767-00 | Side Panel | 2 |
| 8 | H352623 | Tinnerman Clip | 10 |
| 9 | 040-0010-95 | Screw | 4 |
| 10 | 050-3996-00 | Control PCB Bracket | 1 |
| 11 | 040-0010-75 | Screw | 3 |
| 12 | 016-0428-04 | Screen | 1 |
| 13 | 050-3605-00 | Base | 1 |
| 14 | 040-0010-125 | Screw | 7 |
| 15 | 041-0010-02 | Nut | 6 |
| 16 | 050-4750-00 | Flange Clamp | 2 |
| 17 | 050-4326-01 | Base Inspection Cover | 1 |
| 18 | 016-0523-01 | Leveler Foot | 4 |
| 19 | 050-1778-00 | Bracket | 1 |
| 20 | 050-3524-00 | Back Panel | 1 |
| 21 | 040-0010-44 | Screw | 4 |
| 22 | 053-0388-01 | Hose Clip | 2 |
| 23 | 042-0010-21 | Pop Rivet | 2 |
| 24 | 053-0068-11 | Strain Relief Bushing | 1 |
| 25 | 045-0001-00 | Washer | 4 |
| 26 | 040-0010-124 | Screw | 2 |
| 27 | 053-0723-00 | Screw Cover | 2 |
| 28 | 042-0021-00 | Adhesive | AR |
| 29 | 040-0010-113 | Screw | 2 |
| 30 | 042-0045-01 | Nutsert | 2 |
| 31 | 041-0010-04 | Nut | 2 |

**Always Specify Model & Serial Number**

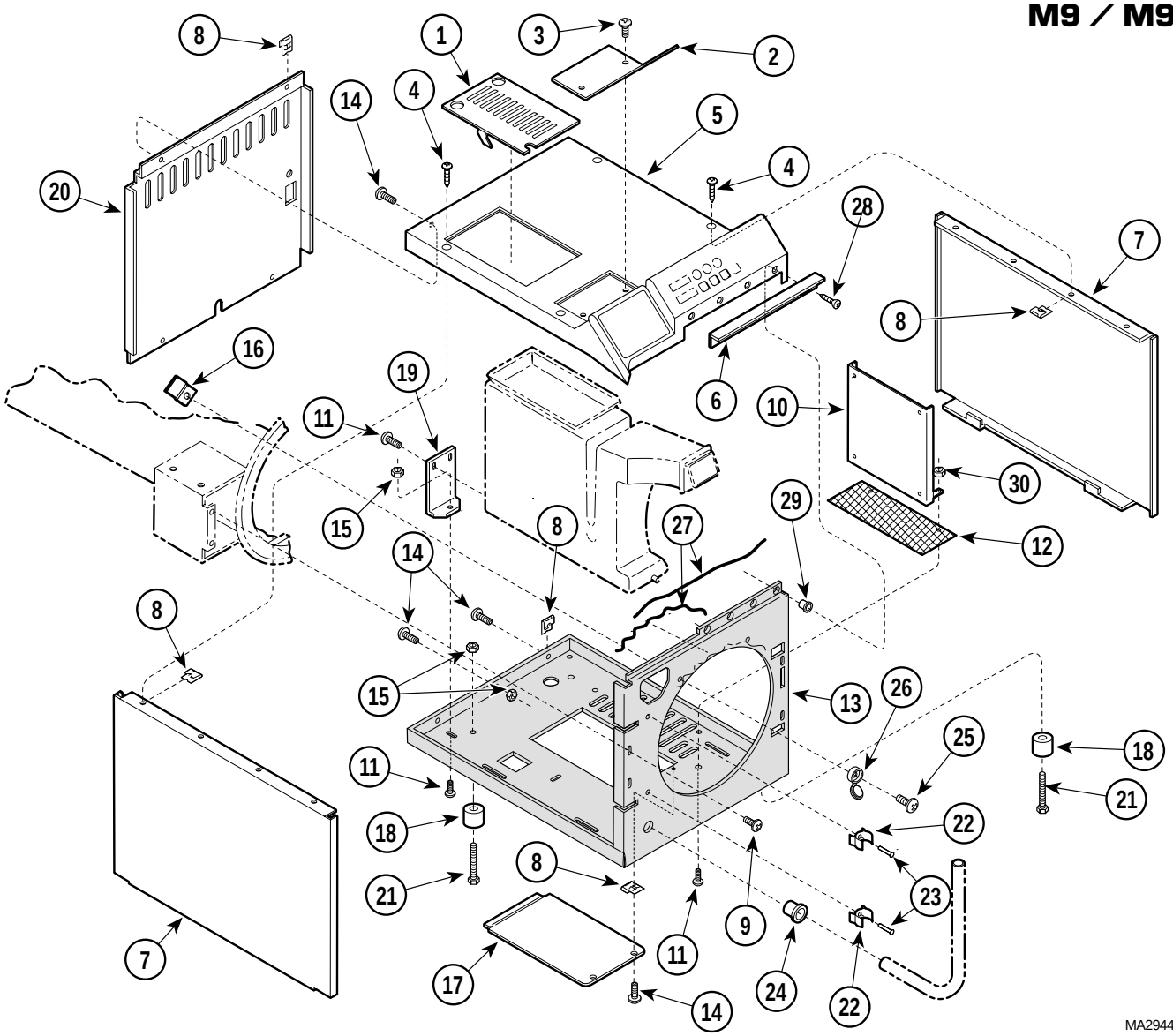
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Main Enclosure Components






**Used on units with Serial Numbers:**
**CZ4531, DA1005, DB1238, DX2589, DY1179, FD1500, FF1040, FG1128, FK1750, FL1475, FX1000, FY1000, LA1000 and OM14667 - thru Present**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 030-1117-00 | Top Inspection Cover | 1 |
| 2 | 050-1775-00 | Cover Plate - Printer | 1 |
| 3 | 040-0008-50 | Screw | 2 |
| 4 | 040-0010-88 | Screw | 4 |
| 5 | 002-0356-00 | M9 Top Cover (Domestic - English) | 1 |
| | 002-0356-01 | M9 Top Cover (Metric - English) | 1 |
| | 002-0356-02 | M9 Top Cover (Metric - French) | 1 |
| | 002-0520-00 | M9D Top Cover | 1 |
| 6 | 050-2034-00 | Top Cover Steam Block | 1 |
| 7 | 050-1767-00 | Side Panel | 2 |
| 8 | H352623 | Tinnerman Clip | 10 |
| 9 | 040-0010-95 | Screw | 5 |
| 10 | 050-3996-00 | Control PCB Bracket | 1 |
| 11 | 040-0010-75 | Screw | 3 |
| 12 | 016-0428-04 | Screen | 1 |
| 13 | 050-4325-00 | Base | 1 |
| 14 | 040-0010-125 | Screw | 6 |
| 15 | 041-0010-02 | Nut | 5 |
| 16 | 050-4750-00 | Flange Clamp | 2 |
| 17 | 050-4326-00 | Base Inspection Cover (1 hole) | 1 |
| | 050-4326-01 | Base Inspection Cover (3 holes) | 1 |
| 18 | 016-0523-01 | Leveler Foot | 4 |
| 19 | 050-1778-00 | Bracket | 1 |
| 20 | 050-3831-01 | Back Panel (120 V. ) | 1 |
| | 050-3831-00 | Back Panel (100 V. & 230 V.) | 1 |
| 21 | 040-0010-44 | Screw | 4 |
| 22 | 053-0388-01 | Hose Clip | 2 |
| 23 | 042-0010-21 | Pop Rivet | 2 |
| 24 | 053-0068-11 | Strain Relief Bushing | 1 |
| 25 | 040-0010-124 | Screw | 2 |
| 26 | 053-0723-00 | Screw Cover | 2 |
| 27 | 042-0021-00 | Adhesive | AR |
| 28 | 040-0010-113 | Screw | 2 |
| 29 | 042-0045-01 | Nutsert | 2 |
| 30 | 041-0010-04 | Nut | 2 |

**Always Specify Model & Serial Number**

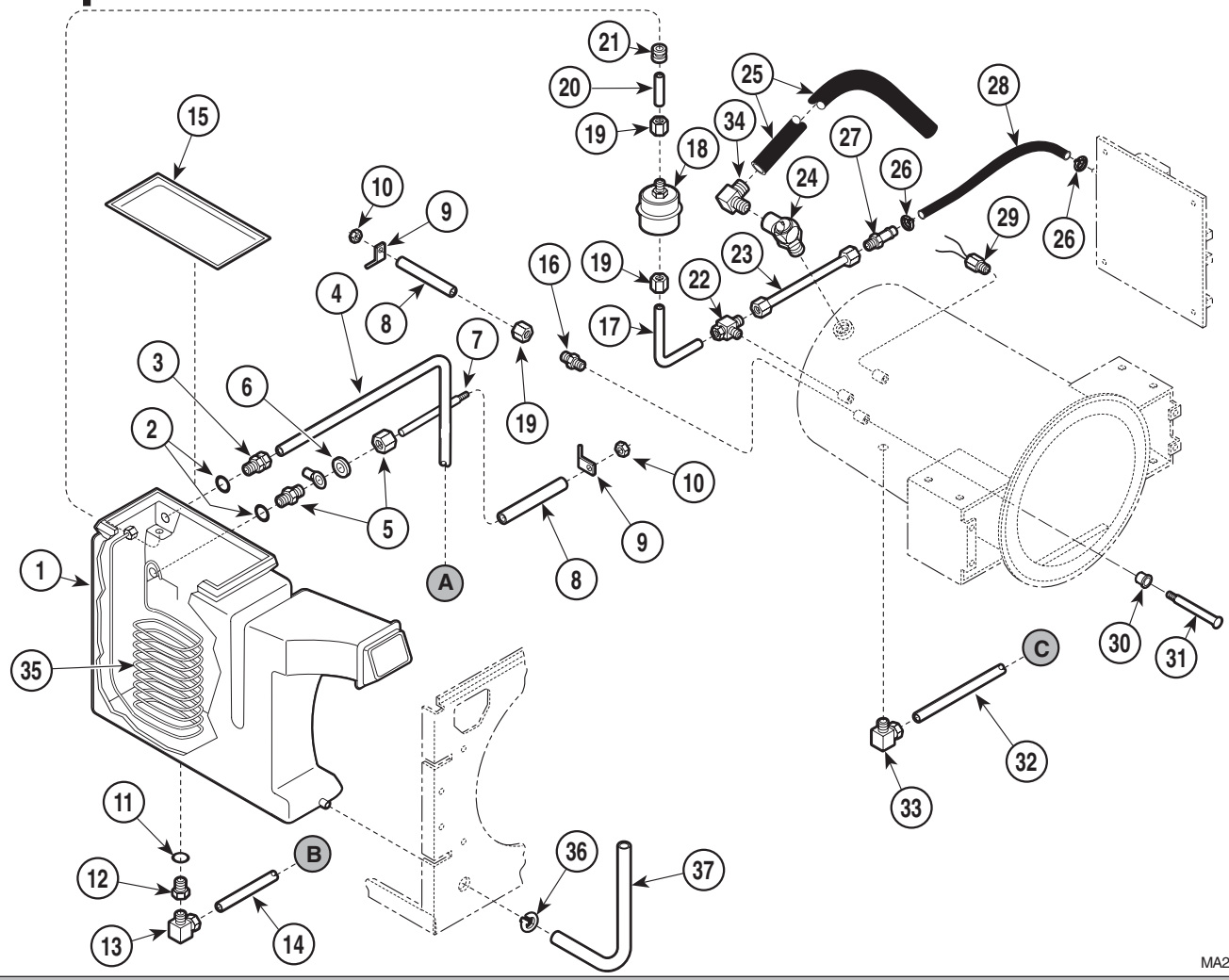
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Plumbing & Sensor Components






MA201910

## Used on units with Serial Numbers:
## CZ1000 thru CZ1119 OM1000 thru OM1352

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 053-0376-00 | Condensing Tank | 1 |
| 2 | 053-0392-00 | O-ring | 2 |
| 3 | 014-0216-00 | Bulkhead Union | 1 |
| | 014-0392-00 | Compression Nut Only | AR |
| 4 | 014-0205-00 | Tube | 1 |
| 5 | 014-0215-00 | Union Drilled (Includes Sleeve) | 1 |
| 6 | 045-0001-56 | Lockwasher | 1 |
| 7 | 057-0273-01 | Level Sensor Rod | 1 |
| 8 | 053-0390-01 | Level Sensor Tube(Refer to Kit [**]) | 1 |
| 9 | 015-0595-00 | Terminal (Refer to Kit [**]) | 2 |
| 10 | 041-0006-02 | Locknut (Refer to Kit [**]) | 2 |
| 11 | 053-0393-00 | O-ring | 1 |
| 12 | 014-0209-00 | Bulkhead Couple | 1 |
| 13 | 014-0184-01 | Male Elbow | 1 |
| 14 | 014-0203-00 | Tube | 1 |
| 15 | 053-0376-01 | Condensing Tank Lid | 1 |
| 16 | 014-0212-00 | Connector (Refer to Kit [**]) | 1 |
| 17 | 014-0206-00 | Tube | 1 |
| 18 | 002-0375-00 | Bellows Assembly | 1 |
| 19 | 014-0392-00 | Compression Nut (Refer to Kit [*]) | 2 |
| 20 | 014-0208-00 | Tube | 1 |
| 21 | 053-0394-00 | Grommet | 1 |
| 22 | 014-0202-00 | Male Branch Tee | 1 |
| 23 | 014-0207-00 | PCB Pres. Sensor Tube (Refer to Kit [*]) | 1 |
| 24 | 002-0359-00 | Pressure Relief Valve (35 P.S.I.) (Includes elbow, Item 36) | 1 |
| 25 | 053-0403-01 | Tube - Pressure Relief | 1 |
| 26 | 015-0013-05 | High Temp Cable Tie (Refer to Kit [*]) | 4 |
| 27 | 014-0217-00 | Compression Connector (Refer to Kit [*]) | 1 |
| 28 | 053-0404-01 | Tube - PCB Connector (Refer to Kit [*]) | 1 |
| 29 | 002-0357-00 | Temperature Probe Assembly | 1 |
| 30 | 053-0407-00 | Bushing (Refer to Kit [**]) | 1 |
| 31 | 030-0858-00 | Level Sensor Assembly (Refer to Kit [**]) | 1 |
| 32 | 014-0204-00 | Tube | 1 |
| 33 | 014-0184-01 | Male 90° Elbow | 1 |
| 34 | 014-0258-00 | Male Elbow | 1 |
| 35 | 052-0173-00 | Condensing Coil | 1 |
| 36 | 016-0450-00 | Hose Clip | 1 |
| 37 | 053-0391-01 | Hose | 1 |
| [*] | 002-0593-01 | (*)Pressure Sensor Tube Kit (Includes #'s 19, 23, 26, 27, & 28) | |
| [**] | 002-0358-00 | Level Sensor Tube Kit (Includes Item 8, 9, 10, 16, 30, and 31)) | 2 |

**Always Specify Model & Serial Number**

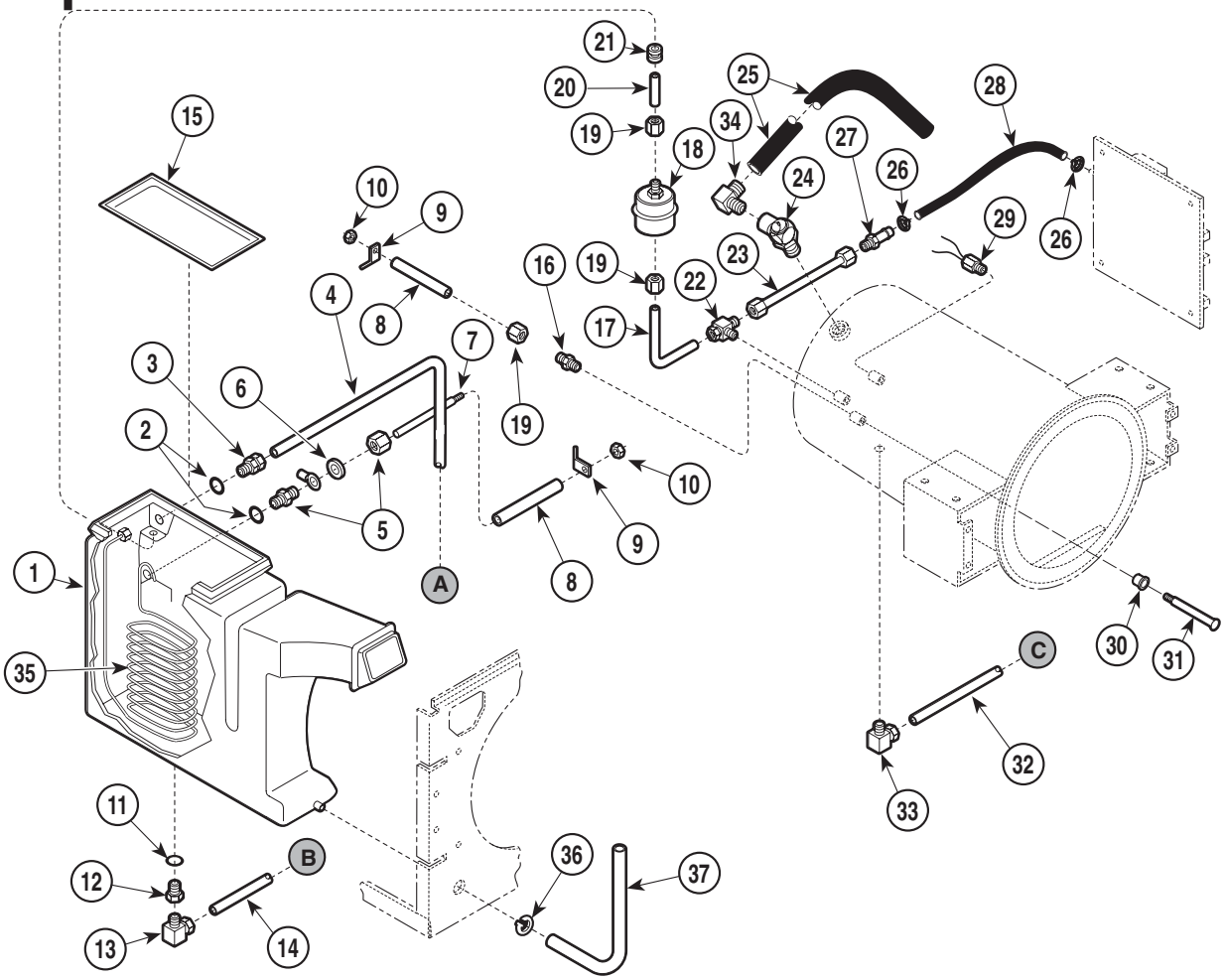
© Midmark Corporation 2002 SF-1827 Rev. 9/07



Printed in U.S.A.

# Plumbing & Sensor Components






MA201910

**Used on units with Serial Numbers:**

**CZ1120 thru CZ1684** **DA1000 thru DA1001** **DB1000 *(one unit)***
**DX1000 thru DX1100** **OM1353 thru OM4864**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 053-0512-00 | Condensing Tank (Includes Item 15) | 1 |
| 2 | H98137 | Gasket | 2 |
| 3 | 014-0216-00 | Bulkhead Union | 1 |
| | 014-0392-00 | Compression Nut Only | AR |
| 4 | 014-0205-00 | Tube | 1 |
| 5 | 014-0215-00 | Union Drilled (Includes Sleeve) | 1 |
| 6 | 045-0001-56 | Lockwasher | 1 |
| 7 | 057-0273-01 | Level Sensor Rod | 1 |
| 8 | 053-0390-01 | Level Sensor Tube (Refer to Kit [**]) | 1 |
| 9 | 015-0595-00 | Terminal (Refer to Kit [**]) | 2 |
| 10 | 041-0006-02 | Locknut (Refer to Kit [**]) | 2 |
| 11 | 053-0393-00 | O-ring | 1 |
| 12 | 014-0209-00 | Bulkhead Couple | 1 |
| 13 | 014-0184-01 | Male Elbow | 1 |
| 14 | 014-0203-00 | Tube | 1 |
| 15 | | Condensing Tank Lid (Part of Item 1) | 1 |
| 16 | 014-0212-00 | Connector (Refer to Kit [**]) | 1 |
| 17 | 014-0206-00 | Tube | 1 |
| 18 | 002-0375-00 | Bellows Assembly | 1 |
| 19 | 014-0392-00 | Compression Nut (Refer to Kit [*]) | 2 |
| 20 | 014-0208-00 | Tube | 1 |
| 21 | 053-0394-00 | Grommet | 1 |

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 22 | 014-0202-00 | Male Branch Tee | 1 |
| 23 | 014-0207-00 | PCB Pres. Sensor Tube (Refer to Kit [*]) | 1 |
| 24 | 002-0359-00 | Pressure Relief Valve (35 P.S.I.) (Includes Elbow, Item 36) | 1 |
| 25 | 053-0403-02 | Tube - Pressure Relief | 1 |
| 26 | 015-0013-05 | High Temp Cable Tie (Refer to Kit [*]) | 4 |
| 27 | 014-0217-00 | Compression Connector (Refer to Kit [*]) | 1 |
| 28 | 053-0404-01 | Tube-PCB Connector (Refer to Kit [*]) | 1 |
| 29 | 002-0357-00 | Temperature Probe Assembly | 1 |
| 30 | 053-0407-00 | Bushing (Refer to Kit [**]) | 1 |
| 31 | 030-0858-00 | Level Sensor Assembly (Refer to Kit [**]) | 1 |
| 32 | 014-0204-00 | Tube | 1 |
| 33 | 014-0184-01 | Male 90° Elbow | 1 |
| 34 | 014-0258-00 | Male Elbow | 1 |
| 35 | 052-0173-00 | Condensing Coil | 1 |
| 36 | 016-0450-00 | Hose Clip | 1 |
| 37 | 053-0391-01 | Hose | 1 |
| [*] | 002-0593-01 | (*)Pressure Sensor Tube Kit (Includes #'s 19, 23, 26, 27, & 28) | |
| [**] | 002-0358-00 | Lever Sensor Tube Kit (Includes Item 8, 9, 10, 16, 30, and 31) | 2 |

**Always Specify Model & Serial Number**

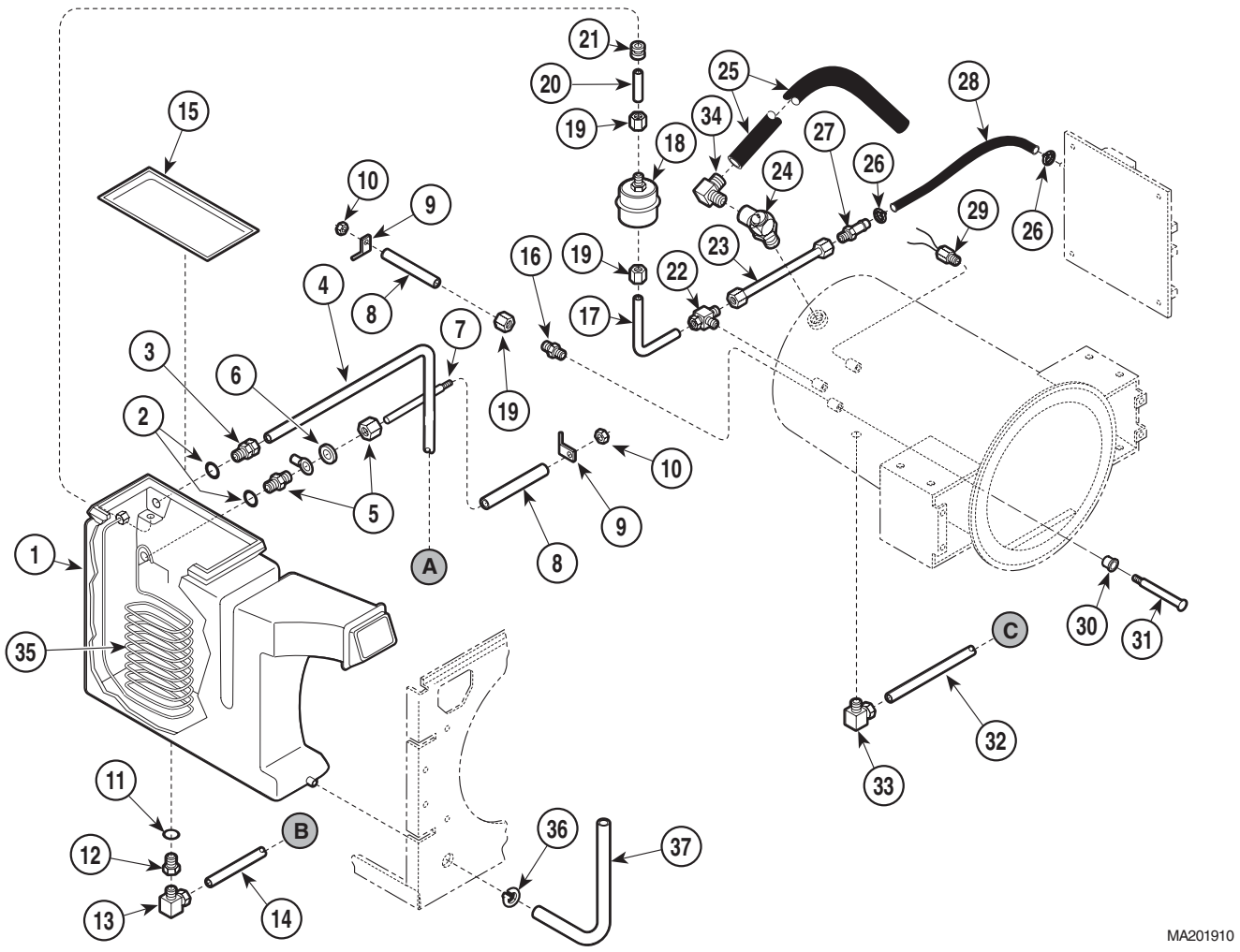
© Midmark Corporation 2002 SF-1827 Rev. 9/07



Printed in U.S.A.

# Plumbing & Sensor Components






MA201910

**Used on units with Serial Numbers:**
**DX1101 thru DX1170 DY1000 thru DY1007 OM4865 thru OM5130**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 053-0512-00 | Condensing Tank (Includes Item 15) | 1 |
| 2 | H98137 | Gasket | 2 |
| 3 | 014-0216-00 | Bulkhead Union | 1 |
| | 014-0392-00 | Compression Nut Only | AR |
| 4 | 014-0205-00 | Tube | 1 |
| 5 | 014-0215-00 | Union Drilled (Includes Sleeve) | 1 |
| 6 | 045-0001-56 | Lockwasher | 1 |
| 7 | 057-0273-01 | Lever Sensor Rod | 1 |
| 8 | 053-0390-01 | Level Sensor Tube (Refer to Kit [**]) | 1 |
| 9 | 015-0595-00 | Terminal (Refer to Kit [**]) | 2 |
| 10 | 041-0006-02 | Locknut (Refer to Kit [**]) | 2 |
| 11 | 053-0393-00 | O-ring | 1 |
| 12 | 014-0209-00 | Bulkhead Couple | 1 |
| 13 | 014-0184-01 | Male Elbow | 1 |
| 14 | 014-0203-00 | Tube | 1 |
| 15 | | Condensing Tank Lid (Part of Item 1) | 1 |
| 16 | 014-0212-00 | Connector (Refer to Kit [**]) | 1 |
| 17 | 014-0206-00 | Tube | 1 |
| 18 | 002-0375-00 | Bellows Assembly | 1 |
| 19 | 014-0392-00 | Compression Nut (Refer to Kit [*]) | 2 |
| 20 | 014-0208-00 | Tube | 1 |
| 21 | 053-0394-00 | Grommet | 1 |
| 22 | 014-0202-00 | Male Branch Tee | 1 |
| 23 | 014-0207-00 | PCB Pres. Sensor Tube (Refer to Kit [*]) | 1 |
| 24 | 002-0359-00 | Pressure Relief Valve (35 P.S.I.) (Includes Elbow, Item 36) | 1 |
| 25 | 053-0613-02 | Tube - Pressure Relief | 1 |
| 26 | 015-0013-05 | High Temp Cable Tie (Refer to Kit [*]) | 4 |
| 27 | 014-0217-00 | Compression Connector (Refer to Kit [*]) | 1 |
| 28 | 053-0404-01 | Tube-PCB Connector (Refer to Kit [*]) | 1 |
| 29 | 002-0357-00 | Temperature Probe Assembly | 1 |
| 30 | 053-0407-00 | Bushing (Refer to Kit [**]) | 1 |
| 31 | 030-0858-00 | Level Sensor Assembly (Refer to Kit [**]) | 1 |
| 32 | 014-0204-00 | Tube | 1 |
| 33 | 014-0184-01 | Male 90° Elbow | 1 |
| 34 | 014-0258-00 | Male Elbow | 1 |
| 35 | 052-0173-00 | Condensing Coil | 1 |
| 36 | 016-0450-00 | Hose Clip | 1 |
| 37 | 053-0391-01 | Hose | 1 |
| [*] | 002-0593-01 | (*)Pressure Sensor Tube Kit (Includes #'s 19, 23, 26, 27, & 28) | |
| [**] | 002-0358-00 | Lever Sensor Tube Kit (Includes Item 8, 9, 10, 16, 30, and 31) | 2 |

**Always Specify Model & Serial Number**

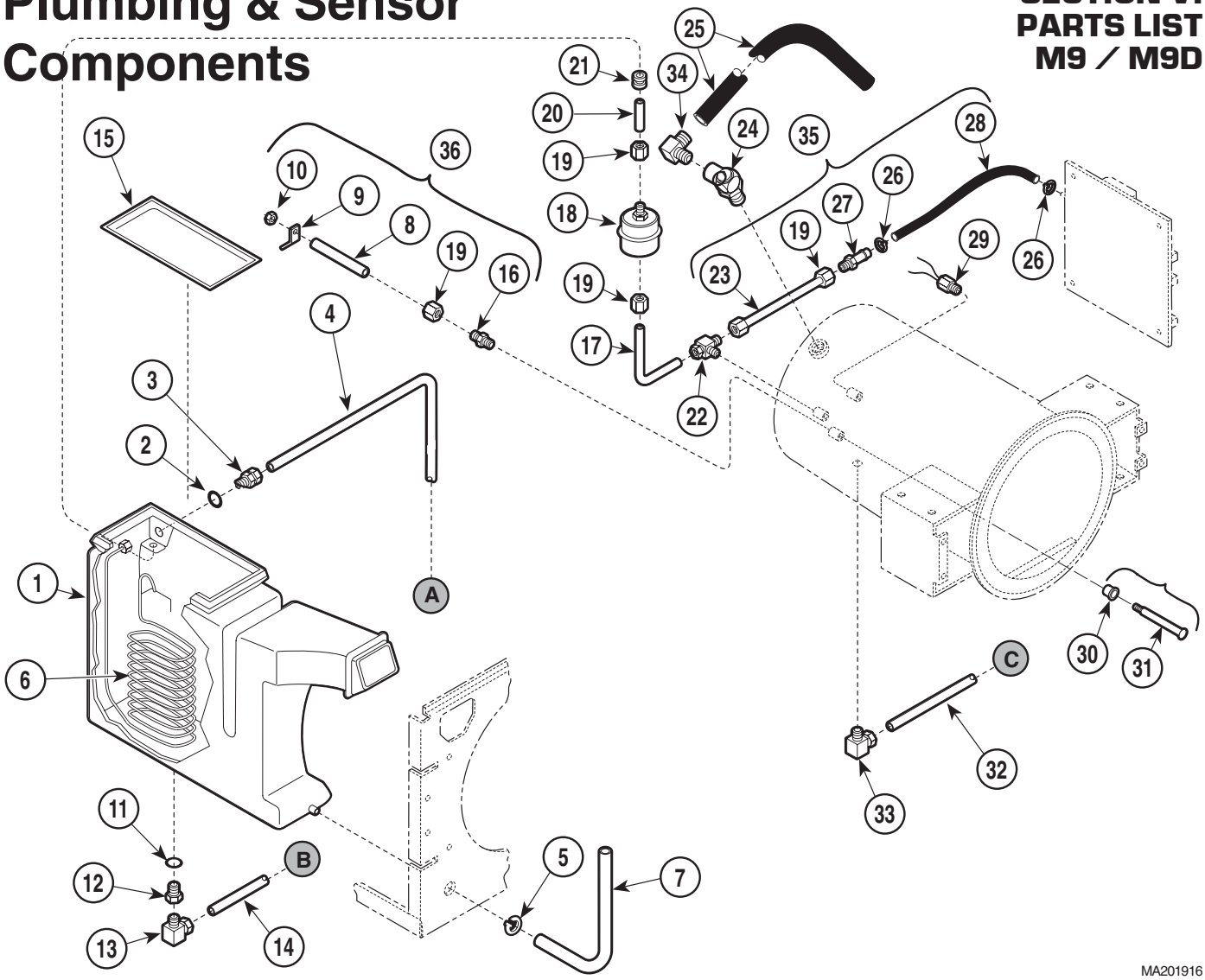
©Midmark Corporation 2002 SF-1827 Rev. 8/06



Printed in U.S.A.

# Plumbing & Sensor Components






MA201916

**Used on units with Serial Numbers:**

| | | | |
|---|---|---|---|
| CZ1685 thru CZ4334 | DA1002 thru DA1004 | DB1001 thru DB1237 | DX1171 thru DX2555 |
| DY1008 thru DY1176 | FD1000 thru FD1399 | FF1000 thru FF1034 | FG1000 thru FG1112 |
| FK1000 thru FK1699 | FL1000 thru FL1474 | OM5131 thru OM14524 | |

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 053-0614-00 | Condensing Tank | 1 |
| 2 | H98137 | Gasket | 1 |
| 3 | 014-0216-00 | Bulkhead Union | 1 |
| | 014-0392-00 | Compression Nut Only | AR |
| 4 | 014-0205-00 | Tube **(M9)** | 1 |
| | 014-0277-00 | Tube **(M9D)** | 1 |
| 5 | 016-0450-00 | Hose Clip | 1 |
| 6 | 052-0173-00 | Condensing Coil | 1 |
| 7 | 053-0391-01 | Hose | 1 |
| 8 | 053-0390-01 | Level Senor Tube (Refer to Kit [**]) | 1 |
| 9 | 015-0595-00 | Terminal (Refer to Kit [**]) | 1 |
| 10 | 041-0006-02 | Locknut (Refer to Kit [**]) | 1 |
| 11 | 053-0393-00 | O-ring | 1 |
| 12 | 014-0209-00 | Bulkhead Couple | 1 |
| 13 | 014-0184-01 | Male Elbow | 1 |
| 14 | 014-0203-00 | Tube | 1 |
| 15 | 053-0614-01 | Condensing Tank Lid | 1 |
| 16 | 014-0212-00 | Connector (Refer to Kit [**]) | 1 |
| 17 | 014-0206-00 | Tube | 1 |
| 18 | 002-0375-00 | Bellows Assembly | 1 |
| 19 | 014-0392-00 | Compression Nut (Refer to Kit [*]) | 2 |
| 20 | 014-0208-00 | Tube | 1 |
| 21 | 053-0394-00 | Grommet | 1 |
| 22 | 014-0202-00 | Male Branch Tee | 1 |
| 23 | 014-0207-00 | PCB Pres. Sensor Tube (Refer to Kit [*]) | 1 |
| 24 | 002-0359-00 | Pressure Relief Valve (35 P.S.I.) (include Elbow, Item 35) | 1 |
| 25 | 053-0613-01 | Tube - Pressure Relief | 1 |
| 26 | 015-0013-05 | High Temp Cable Tie (Refer to Kit [*]) | 4 |
| 27 | 014-0217-00 | Compression Connector (Refer to Kit [*]) | 1 |
| 28 | 053-0404-01 | Tube-PCB Connector (Refer to Kit [*]) | 1 |
| 29 | 002-0357-00 | Temperature Probe Assembly | 1 |
| 30 | 053-0407-00 | Bushing (Refer to Kit [**]) | 1 |
| 31 | 030-0858-00 | Level Sensor Assembly (Refer to Kit [**]) | 1 |
| 32 | 014-0204-00 | Tube | 1 |
| 33 | 014-0184-01 | Male 90° Elbow | 1 |
| 34 | 014-0258-00 | Male Elbow | 1 |
| 35 | 002-0593-01 | (*)Pressure Sensor Tube Kit (Includes #'s 19, 23, 26, 27, & 28) | |
| 36 | 002-0358-00 | Lever Sensor Tube (Includes Item 8,9,10,16,30 and 31) | 1 |

**Always Specify Model & Serial Number**

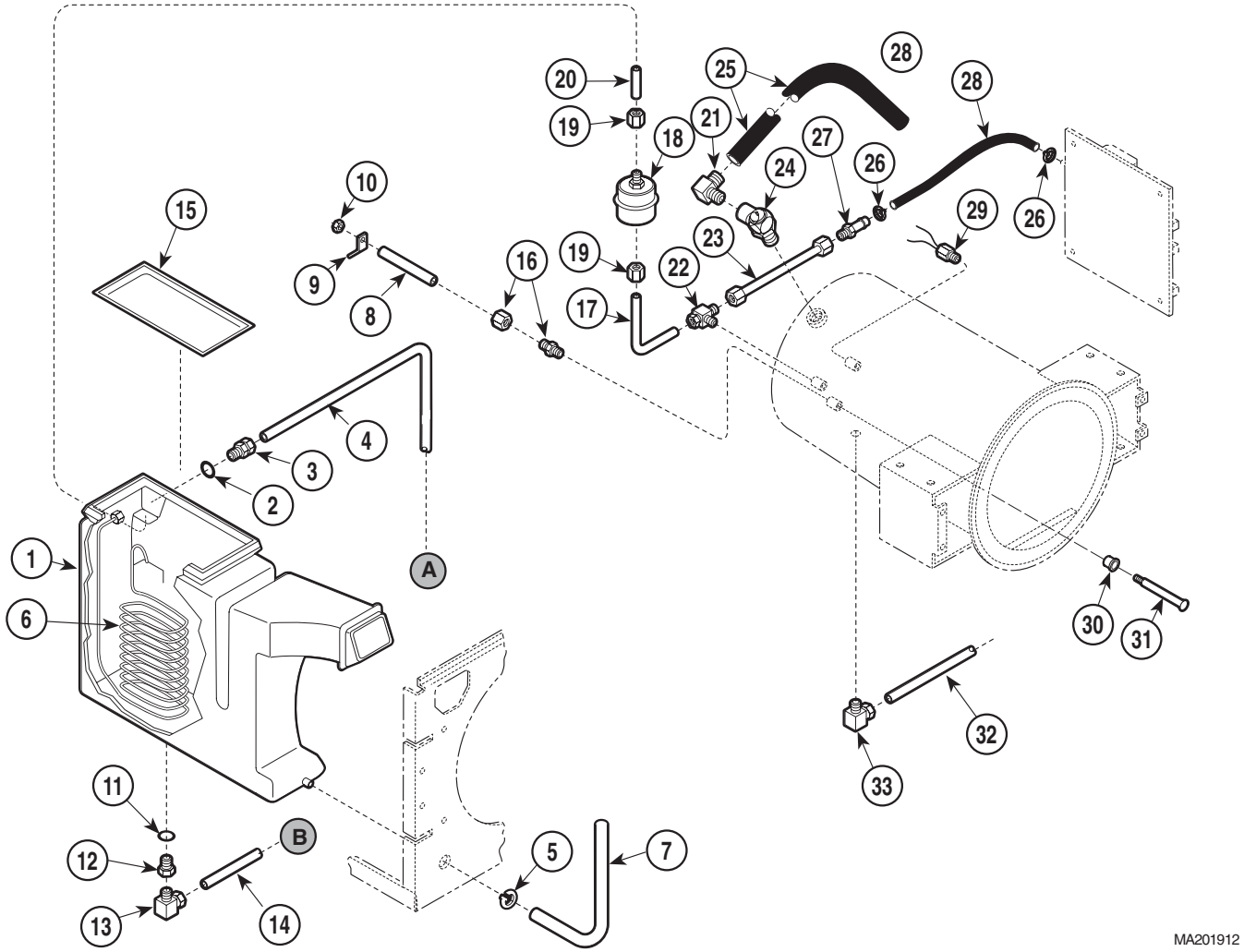
© Midmark Corporation 2002 SF-1827 Rev. 6/08



Printed in U.S.A.

# Plumbing & Sensor Components






MA201912

**Used on units with Serial Numbers:**

**CZ4335 thru CZ5944 DB1238 thru DB1262 DX2556 thru DX2883 DY1177 thru DY1178**
**FD1400 thru FD1954 FF1035 thru FF1177 FG1113 thru FG1290 FK1700 thru FK2279**
**FL1475 thru FL1843 OM14525 thru OM17468**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 053-0614-00 | Condensing Tank | 1 |
| 2 | H98137 | Gasket | 1 |
| 3 | 014-0216-00 | Bulkhead Union | 1 |
| | 014-0392-00 | Compression Nut Only | AR |
| 4 | 014-0205-00 | Tube **(M9)** | 1 |
| | 014-0277-00 | Tube **(M9D)** | 1 |
| 5 | 016-0748-00 | Hose Clip | 1 |
| 6 | 052-0173-00 | Condensing Coil | 1 |
| 7 | 053-0391-01 | Hose | 1 |
| 8 | 002-0358-00 | Lever Sensor Tube (Includes Item 9,10,16,30,and 31) | 1 |
| 9 | 015-0595-00 | Terminal | 1 |
| 10 | 041-0006-02 | Locknut | 1 |
| 11 | 053-0393-00 | O-ring | 1 |
| 12 | 014-0209-00 | Bulkhead Couple | 1 |
| 13 | 014-0184-01 | Male Elbow | 1 |
| 14 | 014-0203-00 | Tube | 1 |
| 15 | 053-0614-01 | Condensing Tank Lid | 1 |
| 16 | 014-0212-00 | Connector | 1 |
| 17 | 014-0206-00 | Tube | 1 |
| 18 | 002-0375-00 | Bellows Assembly | 1 |
| 19 | 014-0392-00 | Compression Nut (Refer to Kit [*]) | 2 |
| 20 | 014-0208-00 | Tube | 1 |
| 21 | 014-0258-00 | Male Elbow | 1 |
| 22 | 014-0202-00 | Male Branch Tee | 1 |
| 23 | 014-0207-00 | PCB Pres. Sensor Tube (Refer to Kit [*]) | 1 |
| 24 | 002-0359-01 | Pressure Relief Valve (40 P.S.I.) (Includes Elbow, Item 35) | 1 |
| 25 | 053-0613-01 | Tube - Pressure Relief | 1 |
| 26 | 015-0013-05 | Cable Tie (High Temp) | 4 |
| 27 | 014-0217-00 | Compression Connector (Refer to Kit [*]) | 1 |
| 28 | 053-0404-01 | Tube-PCB Connector (Refer to Kit [*]) | 1 |
| 29 | 002-0357-00 | Temperature Probe Assembly | 1 |
| 30 | 053-0407-00 | Bushing | 1 |
| 31 | 030-0858-00 | Level Sensor Assembly | 1 |
| 32 | 014-0204-00 | Tube | 1 |
| 33 | 014-0184-01 | Male 90° Elbow | 1 |
| (*) | 002-0593-01 | (*)Pressure Sensor Tube Kit (Includes #'s 19, 23, 26, 27, & 28) | |

**Always Specify Model & Serial Number**

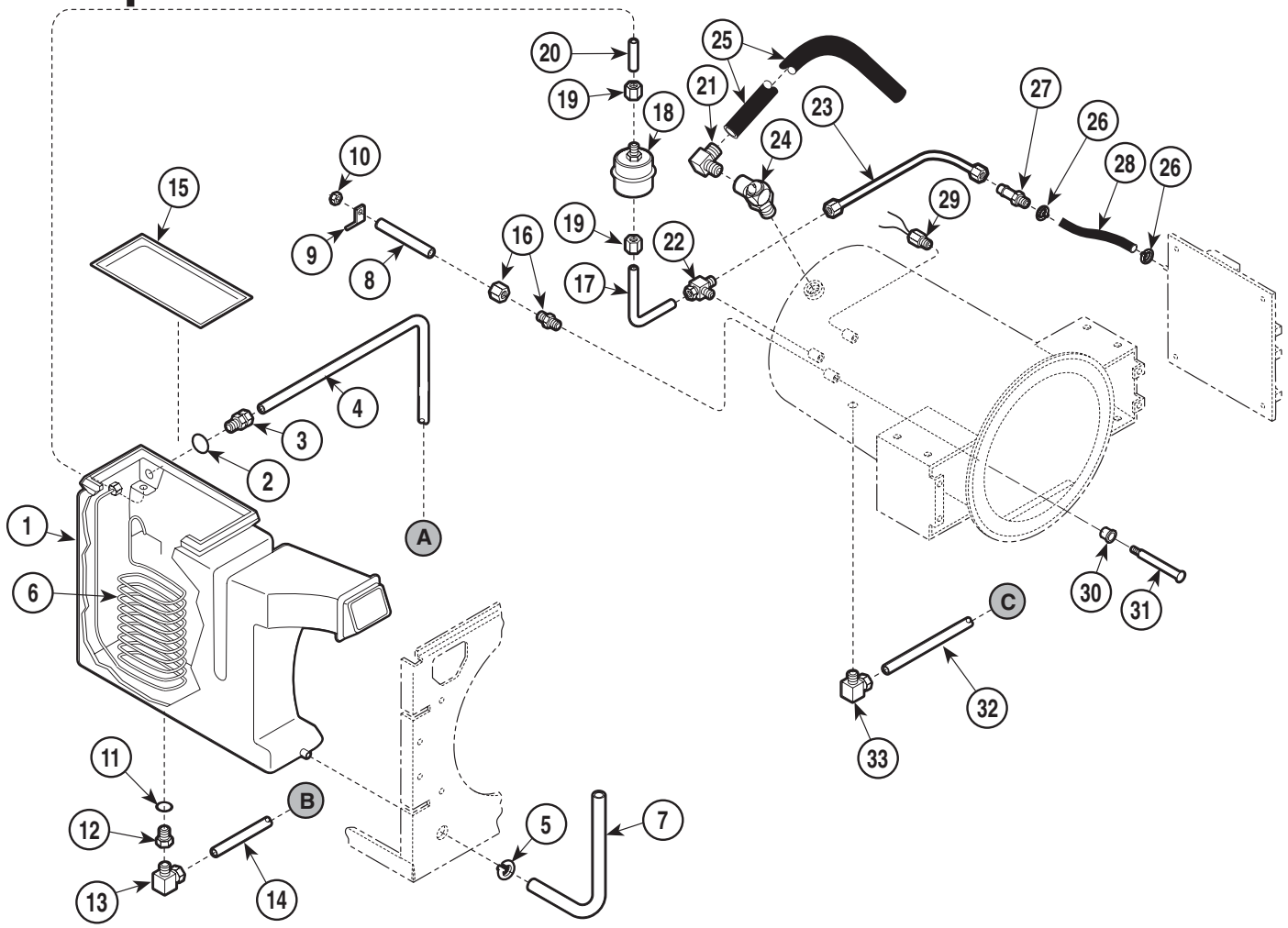
©Midmark Corporation 2002 SF-1827 Rev. 8/06



Printed in U.S.A.

# Plumbing & Sensor Components






MA510809

**Used on units with Serial Numbers:**

**CZ5945 thru CZ6530 DB1263 thru DB1272 DX2884 thru DX2878 FD1955 thru FD1954**
**FF1178 thru FF1264 FG1291 thru FG1327 FK2280 thru FK2304 FL1844 thru FL1948**
**LA1000 thru LA1023 OM17469 thru OM18880**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 053-0614-00 | Condensing Tank | 1 |
| 2 | H98137 | Gasket | 1 |
| 3 | 014-0216-00 | Bulkhead Union | 1 |
| | 014-0392-00 | Compression Nut Only | AR |
| 4 | 014-0205-00 | Tube (M9) | 1 |
| | 014-0277-00 | Tube (M9D) | 1 |
| 5 | 016-0748-00 | Hose Clip | 1 |
| 6 | 052-0173-00 | Condensing Coil | 1 |
| 7 | 053-0391-01 | Hose | 1 |
| 8 | 002-0358-00 | Lever Sensor Tube (Includes Item 9,10,16,30, and 31) | 1 |
| 9 | 015-0595-00 | Terminal | 1 |
| 10 | 041-0006-02 | Locknut | 1 |
| 11 | 053-0393-00 | O-ring | 1 |
| 12 | 014-0209-00 | Bulkhead Couple | 1 |
| 13 | 014-0184-01 | Male Elbow | 1 |
| 14 | 014-0203-00 | Tube | 1 |
| 15 | 053-0614-01 | Condensing Tank Lid | 1 |
| 16 | 014-0212-00 | Connector | 1 |
| 17 | 014-0206-00 | Tube | 1 |
| 18 | 002-0375-00 | Bellows Assembly | 1 |
| 19 | 014-0392-00 | Compression Nut (Refer to Kit [*]) | 2 |
| 20 | 014-0208-00 | Tube | 1 |
| 21 | 014-0258-00 | Male Elbow | 1 |
| 22 | 014-0202-00 | Male Branch Tee | 1 |
| 23 | 014-0315-00 | PCB Pres. Sensor Tube (Refer to Kit [*]) | 1 |
| 24 | 002-0359-01 | Pressure Relief Valve (40 P.S.I.) (Includes Elbow, Item 35) | 1 |
| 25 | 053-0613-01 | Tube - Pressure Relief | 1 |
| 26 | 015-0013-05 | Cable Tie (High Temp) | 4 |
| 27 | 014-0217-00 | Compression Connector (Refer to Kit [*]) | 1 |
| 28 | 053-0404-04 | Tube-PCB Connector (Refer to Kit [*]) | 1 |
| 29 | 002-0357-00 | Temperature Probe Assembly | 1 |
| 30 | 053-0407-00 | Bushing | 1 |
| 31 | 030-0858-00 | Level Sensor Assembly | 1 |
| 32 | 014-0204-00 | Tube | 1 |
| 33 | 014-0184-01 | Male 90° Elbow | 1 |
| (*) | 002-0593-01 | (*)Pressure Sensor Tube Kit (Includes #'s 19, 23, 26, 27, & 28) | |

**Always Specify Model & Serial Number**

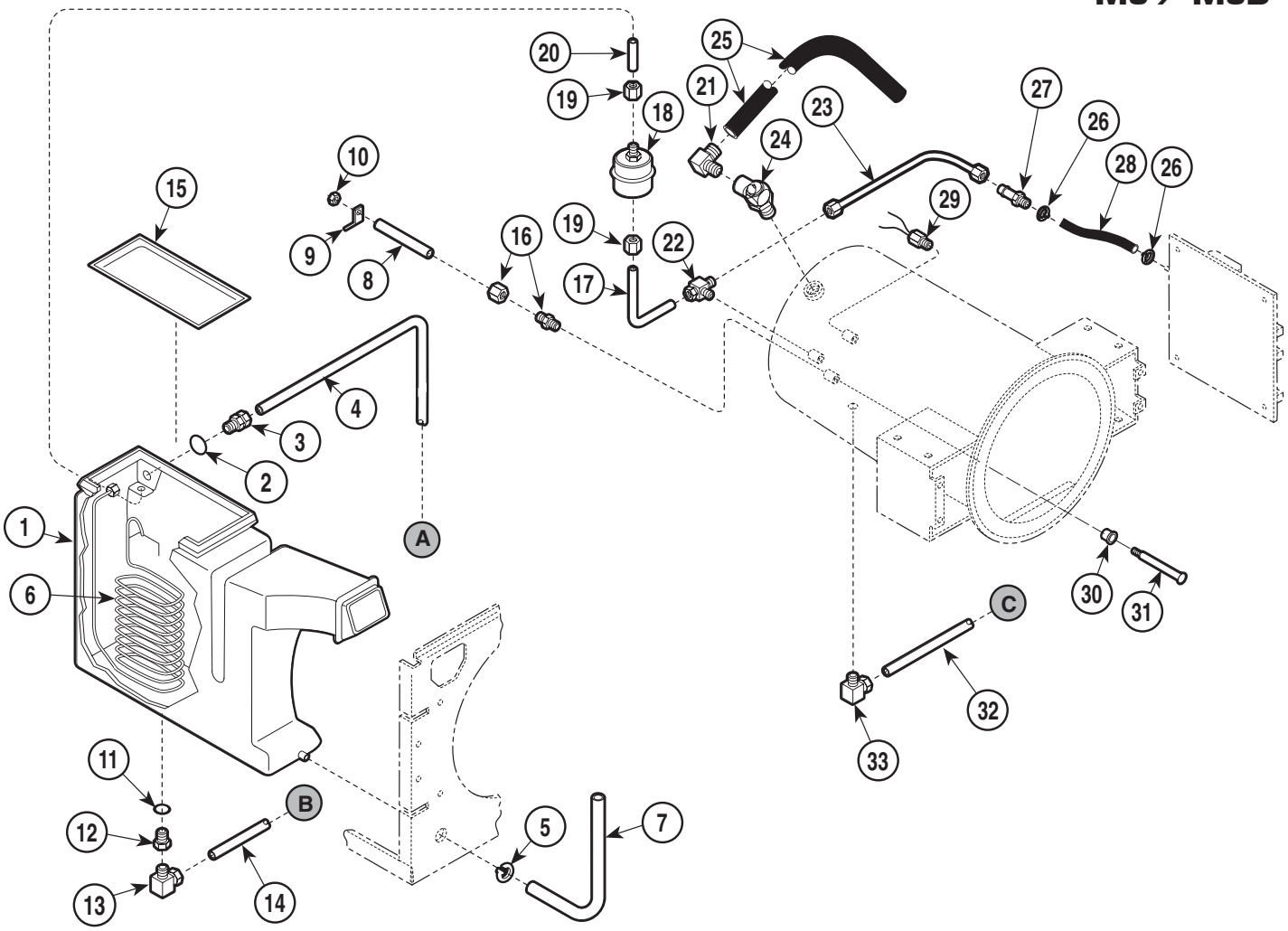
© Midmark Corporation 2002 SF-1827 Rev. 8/06



Printed in U.S.A.

# Plumbing & Sensor Components






MA510809

**Used on units with Serial Numbers:**

| | | | |
|---|---|---|---|
| CZ6531 thru CZ7236 | DX2879 thru DX2906 | DY1179 thru DY1182 | FD1955 thru FD2104 |
| FK2305 thru FK2324 | FL1949 thru FL1963 | LA1024 thru LA1028 | FF1265 thru FF1290 |
| FG1328 thru FG1386 | OM18881 thru OM20225 | | |

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 053-0966-00 | Condensing Tank | 1 |
| 2 | H98137 | Gasket | 1 |
| 3 | 014-0216-00 | Bulkhead Union | 1 |
| | 014-0392-00 | Compression Nut Only | AR |
| 4 | 014-0205-00 | Tube (M9) | 1 |
| | 014-0277-00 | Tube (M9D) | 1 |
| 5 | 016-0748-01 | Hose Clip | 1 |
| 6 | 052-0173-00 | Condensing Coil | 1 |
| 7 | 053-0391-01 | Hose | 1 |
| 8 | 002-0358-00 | Lever Sensor Tube (Includes Item 9,10,16,30, and 31) | 1 |
| 9 | 015-0595-00 | Terminal | 1 |
| 10 | 041-0006-02 | Locknut | 1 |
| 11 | 053-0393-00 | O-ring | 1 |
| 12 | 014-0209-00 | Bulkhead Couple | 1 |
| 13 | 014-0184-01 | Male Elbow | 1 |
| 14 | 014-0203-00 | Tube | 1 |
| 15 | 053-0966-01 | Condensing Tank Lid | 1 |
| 16 | 014-0212-00 | Connector | 1 |
| 17 | 014-0206-00 | Tube | 1 |
| 18 | 002-0375-00 | Bellows Assembly | 1 |
| 19 | 014-0392-00 | Compression Nut (Refer to Kit [*]) | 2 |
| 20 | 014-0208-00 | Tube | 1 |
| 21 | 014-0258-00 | Male Elbow | 1 |
| 22 | 014-0202-00 | Male Branch Tee | 1 |
| 23 | 014-0315-00 | PCB Pres. Sensor Tube (Refer to Kit [*]) | 1 |
| 24 | 002-0359-01 | Pressure Relief Valve (40 P.S.I.) (Includes Elbow, Item 35) | 1 |
| 25 | 053-0613-02 | Tube - Pressure Relief | 1 |
| 26 | 015-0013-05 | Cable Tie (High Temp) | 4 |
| 27 | 014-0217-00 | Compression Connector (Refer to Kit [*]) | 1 |
| 28 | 053-0404-04 | Tube - PCB Connector (Refer to Kit [*]) | 1 |
| 29 | 002-0357-00 | Temperature Probe Assembly | 1 |
| 30 | 053-0407-00 | Bushing | 1 |
| 31 | 030-0858-00 | Level Sensor Assembly | 1 |
| 32 | 014-0204-00 | Tube | 1 |
| 33 | 014-0184-01 | Male 90° Elbow | 1 |
| (*) | 002-0593-01 | (*)Pressure Sensor Tube Kit (Includes #'s 19, 23, 26, 27, & 28) | |

**Always Specify Model & Serial Number**

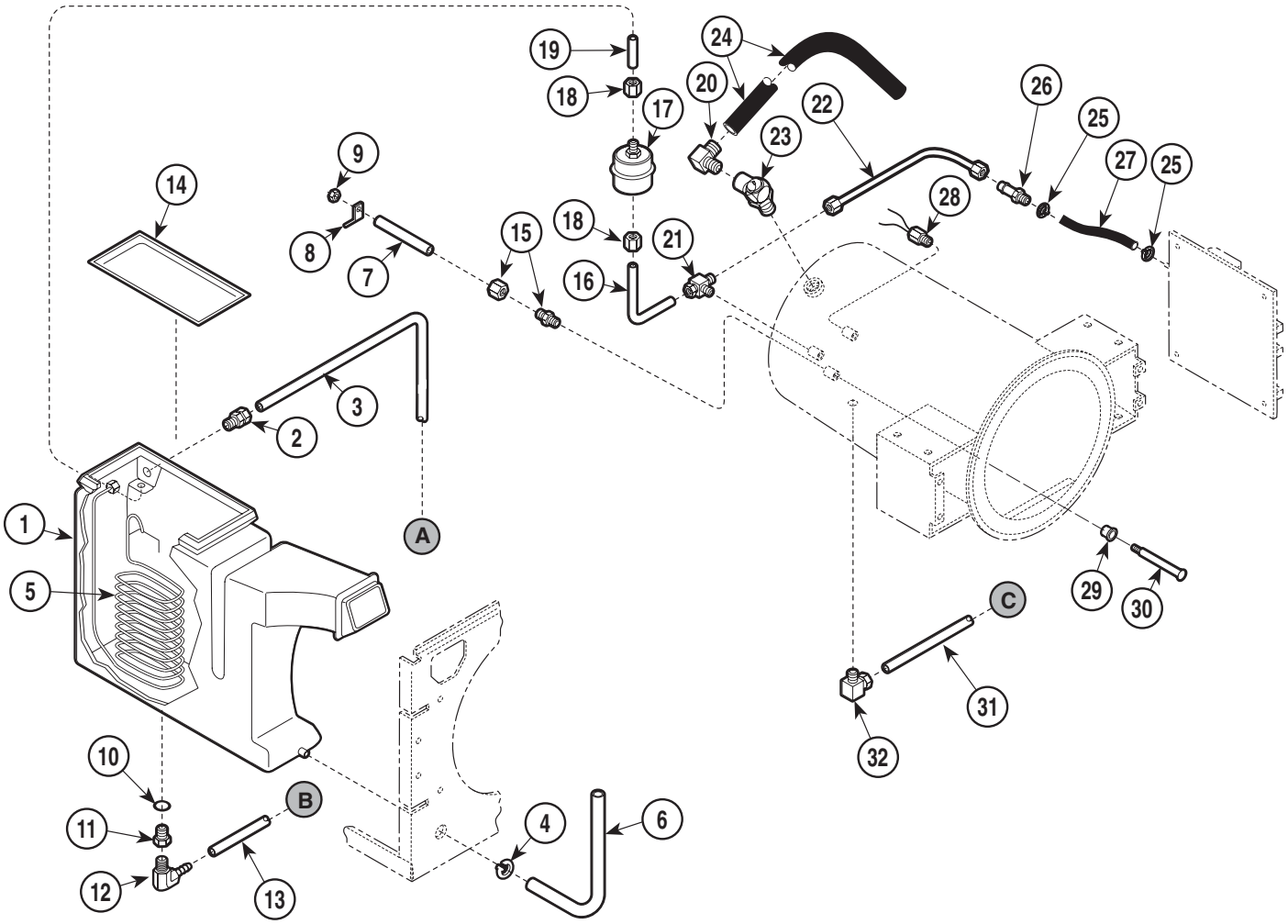
© Midmark Corporation 2002 SF-1827 Rev. 8/06



Printed in U.S.A.

# Plumbing & Sensor Components






MA510804

**Used on units with Serial Numbers:**

CZ7237 thru CZ10064 | DB1273 thru DB1282 | DX2907 thru DX3147 | DY1183 thru DY1190
FD2105 thru FD2264 | FF1291 thru FF1736 | FG1387 thru FG1617 | OM20226 thru OM25095

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 053-0966-00 | Condensing Tank | 1 |
| 2 | 014-0216-00 | Bulkhead Union | 1 |
| | 014-0392-00 | Compression Nut Only | AR |
| 3 | 014-0205-00 | Tube (M9) | 1 |
| | 014-0277-00 | Tube (M9D) | 1 |
| 4 | 016-0748-01 | Hose Clip | 1 |
| 5 | 052-0173-00 | Condensing Coil | 1 |
| 6 | 053-0391-01 | Hose | 1 |
| 7 | 002-0358-00 | Lever Sensor Tube (Includes Item 8,9,15,29, and 30) | 1 |
| 8 | 015-0595-00 | Terminal | 1 |
| 9 | 041-0006-02 | Locknut | 1 |
| 10 | 053-0393-00 | O-ring | 1 |
| 11 | 014-0209-00 | Bulkhead Couple | 1 |
| 12 | 014-0348-00 | Barb Fitting Elbow | 1 |
| 13 | 053-1033-01 | Norprene Tubing | 1 |
| 14 | 053-0966-01 | Condensing Tank Lid | 1 |
| 15 | 014-0212-00 | Connector | 1 |
| 16 | 014-0206-00 | Tube | 1 |
| 17 | 002-0375-00 | Bellows Assembly | 1 |
| 18 | 014-0392-00 | Compression Nut (Refer to Kit [*]) | 2 |
| 19 | 014-0208-00 | Tube | 1 |
| 20 | 014-0258-00 | Male Elbow | 1 |
| 21 | 014-0202-00 | Male Branch Tee | 1 |
| 22 | 014-0315-00 | PCB Pres. Sensor Tube (Refer to Kit [*]) | 1 |
| 23 | 002-0359-01 | Pressure Relief Valve (40 P.S.I.) (Includes Elbow, Item 34) | 1 |
| 24 | 053-0613-02 | Tube - Pressure Relief | 1 |
| 25 | 015-0013-05 | Cable Tie (High Temp) | 2 |
| 26 | 014-0217-00 | Compression Connector (Refer to Kit [*]) | 1 |
| 27 | 053-0404-04 | Tube - PCB Connector (Refer to Kit [*]) | 1 |
| 28 | 002-0357-00 | Temperature Probe Assembly | 1 |
| 29 | 053-0407-00 | Bushing | 1 |
| 30 | 030-0858-00 | Level Sensor Assembly | 1 |
| 31 | 014-0204-00 | Tube | 1 |
| 32 | 014-0184-01 | Male 90° Elbow | 1 |
| (*) | 002-0593-01 | (*)Pressure Sensor Tube Kit (Includes #'s 18, 22, 25, 26, & 27) | |

**Always Specify Model & Serial Number**

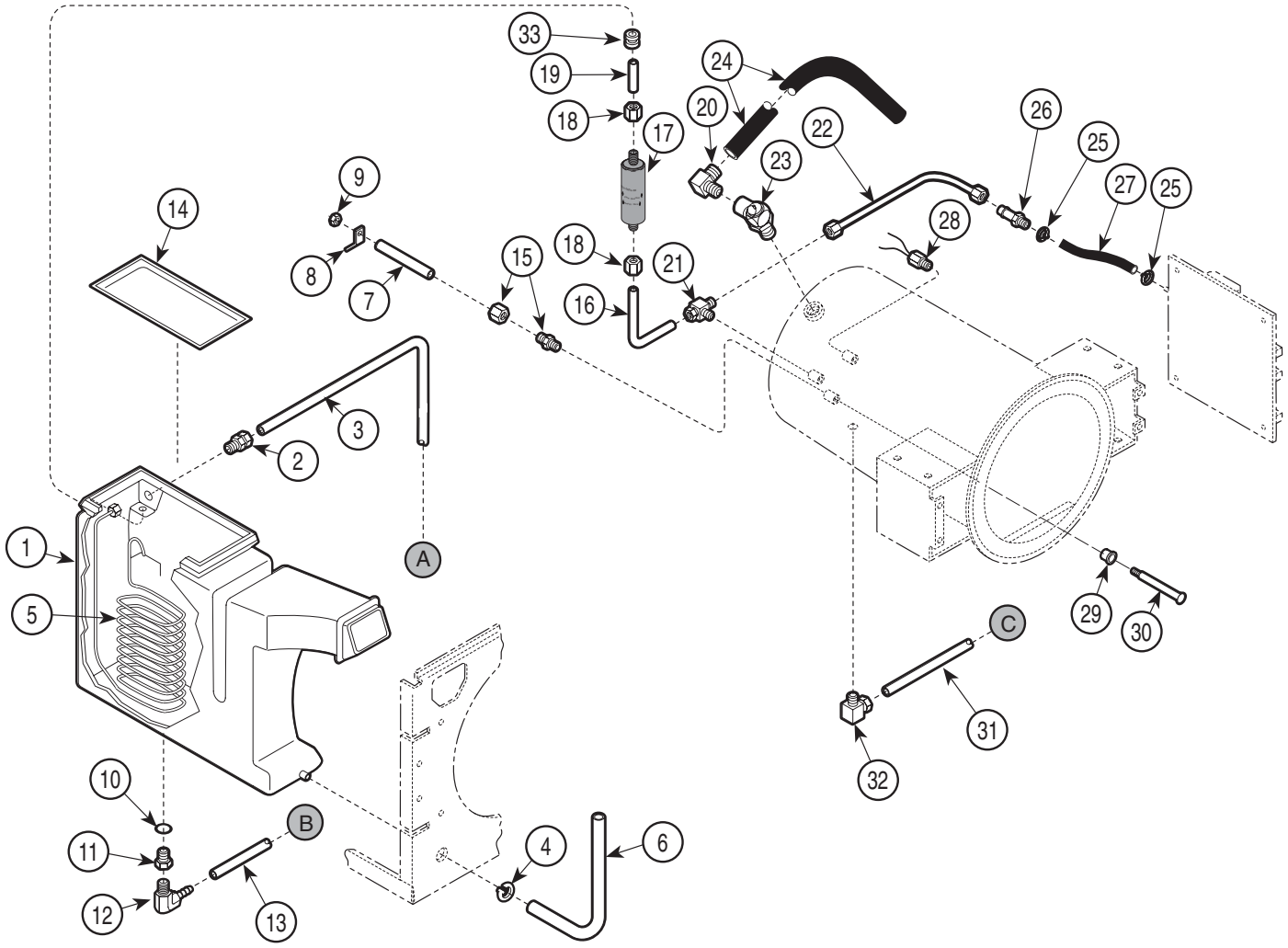
©Midmark Corporation 2002 SF-1827 Rev. 8/06



Printed in U.S.A.

# Plumbing & Sensor Components






MA510807

**Used on units with Serial Numbers:**
**CZ10065, DA1005, DB1283, DX3148, DY1191, FD2265, FF1737, FG1618, FK2325, FL1964, LA1029, OM25096 - thru Present**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 053-0966-00 | Condensing Tank | 1 |
| 2 | 014-0216-00 | Bulkhead Union | 1 |
| | 014-0392-00 | Compression Nut Only | AR |
| 3 | 014-0205-00 | Tube (M9) | 1 |
| | 014-0277-00 | Tube (M9D) | 1 |
| 4 | 016-0748-01 | Hose Clip | 1 |
| 5 | 052-0173-00 | Condensing Coil | 1 |
| 6 | 053-0391-01 | Hose | 1 |
| 7 | 002-0358-00 | Lever Sensor Tube (Includes Item 8,9,15,29, and 30) | 1 |
| 8 | 015-0595-00 | Terminal | 1 |
| 9 | 041-0006-02 | Locknut | 1 |
| 10 | 053-0393-00 | O-ring | 1 |
| 11 | 014-0209-00 | Bulkhead Couple | 1 |
| 12 | 014-0348-00 | Barb Fitting Elbow | 1 |
| 13 | 053-1033-01 | Norprene Tubing | 1 |
| 14 | 053-0966-01 | Condensing Tank Lid | 1 |
| 15 | 014-0212-00 | Connector | 1 |
| 16 | 014-0206-00 | Tube | 1 |
| 17 | 002-0654-00 | Steam Trap Assembly | 1 |
| 18 | 014-0392-00 | Compression Nut (Refer to Kit [*]) | 2 |
| 19 | 014-0208-00 | Tube | 1 |
| 20 | 014-0258-00 | Male Elbow | 1 |
| 21 | 014-0202-00 | Male Branch Tee | 1 |
| 22 | 014-0315-00 | PCB Pres. Sensor Tube (Refer to Kit [*]) | 1 |
| 23 | 002-0359-01 | Pressure Relief Valve (40 P.S.I.) (Includes Elbow, Item 34) | 1 |
| 24 | 053-0613-02 | Tube - Pressure Relief | 1 |
| 25 | 015-0013-05 | Cable Tie (High Temp) | 2 |
| 26 | 014-0217-00 | Compression Connector (Refer to Kit [*]) | 1 |
| 27 | 053-0404-04 | Tube - PCB Connector (Refer to Kit [*]) | 1 |
| 28 | 002-0357-00 | Temperature Probe Assembly | 1 |
| 29 | 053-0407-00 | Bushing | 1 |
| 30 | 030-0858-00 | Level Sensor Assembly | 1 |
| 31 | 014-0204-00 | Tube | 1 |
| 32 | 014-0184-01 | Male 90° Elbow | 1 |
| 33 | 053-0394-02 | Grommet | 1 |
| (*) | 002-0593-01 | (*)Pressure Sensor Tube Kit (Includes #'s 18, 22, 25, 26, & 27) | |

**Always Specify Model & Serial Number**

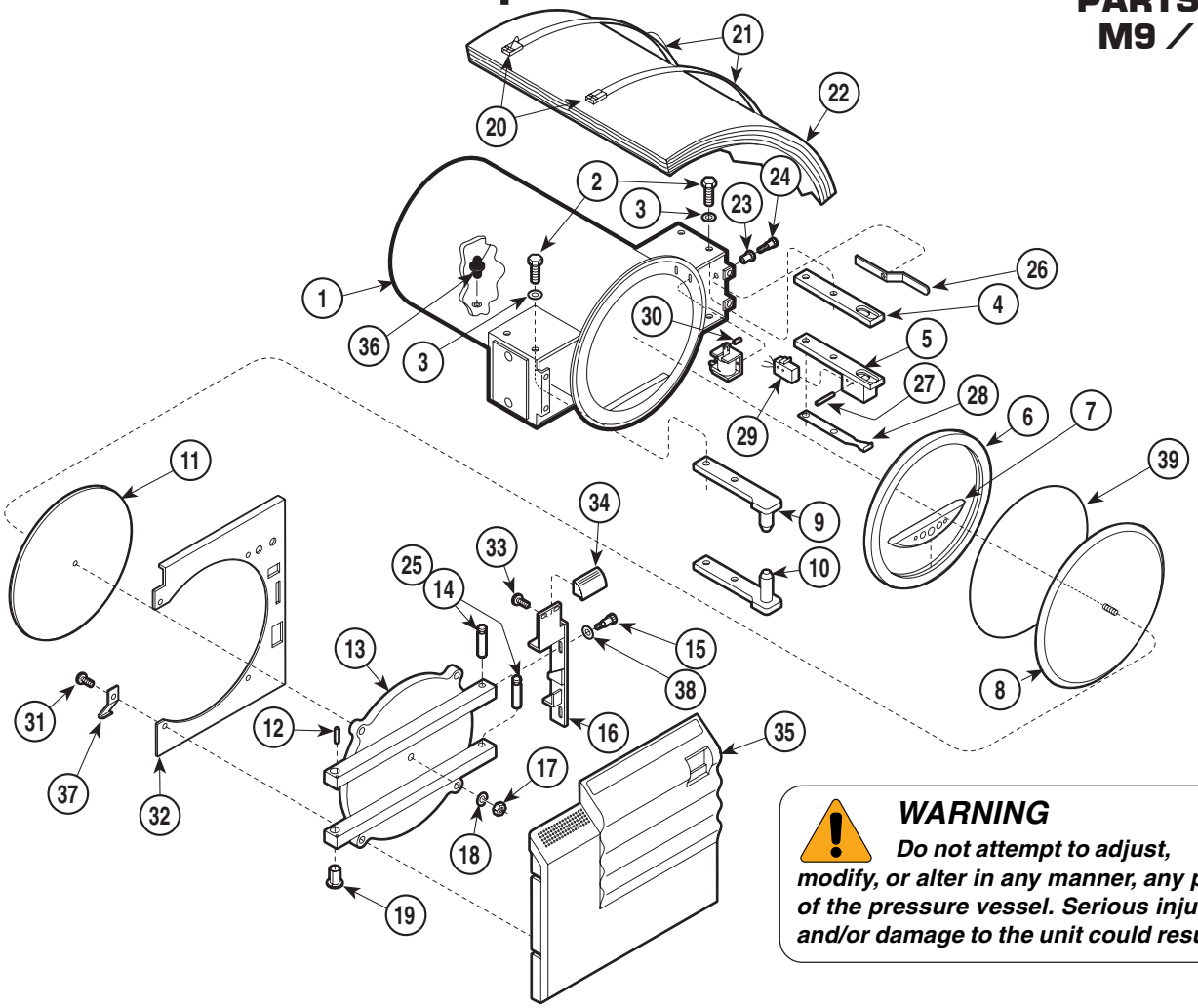
© Midmark Corporation 2002 SF-1827 Rev. 8/06



Printed in U.S.A.

# Pressure Vessel Components






**WARNING**

***Do not attempt to adjust, modify, or alter in any manner, any part of the pressure vessel. Serious injury and/or damage to the unit could result.***

MA202010

**Used on units with Serial Numbers:**

**CZ1000 thru CZ8199 DB1000 thru DB1277 DX1000 thru DX3006 DY1000 thru DY1185**
**FD1000 thru FD2131 FF1000 thru FF1634 FG1000 thru FG1471 FK1000 thru FK3224**
**FL1000 thru FL1963 LA1000 thru LA1028 OM1000 thru OM21774**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | | Chamber | 1 |
| 2 | | Screw | 8 |
| 3 | | Washer | 8 |
| 4 | | Right Bracket | 1 |
| 5 | | Switch Weldment | 1 |
| 6 | 053-0366-00 | Door Gasket (Incl. in 002-0361-00 Kit) | 1 |
| 7 | 053-0508-00 | Dam Gasket (Incl. in 002-0361-00 Kit) | 1 |
| 8 | 030-1016-00 | Housing | 1 |
| 9 | | Top Bracket | 1 |
| 10 | | Bottom Bracket | 1 |
| 11 | 016-0395-01 | Door Insulation Pad | 1 |
| 12 | 042-0104-00 | Roll Pin | 1 |
| 13 | | Door | 1 |
| 14 | | Door Bolt | 2 |
| 15 | 042-0106-00 | Shoulder Screw | 2 |
| 16 | 050-3525-00 | Latch | 1 |
| 17 | 041-0000-00 | Nut | 1 |
| 18 | 045-0000-00 | Lockwasher | 1 |
| 19 | | Flange Bearing | 2 |
| 20 | H99387 | Aluminum Seal | 2 |
| 21 | H99388-36 | Insulation Strap | 2 |
| 22 | 053-0385-01 | Insulation Wrapper | 1 |
| 23 | 016-0131-18 | Flanged Bearing (Not Used on M9D) | 1 |
| 24 | 042-0106-01 | Shoulder Screw (Not Used on M9D) (Apply Lubricant #064-0002-00]) | 1 |
| 25 | 064-0014-00 | Grease | AR |
| 26 | 050-5192-00 | Latch Lever (Not Used on M9D) | 1 |
| 27 | 042-0001-23 | Roll Pin | 2 |
| 28 | 050-2362-00 | Spring Arm | 1 |
| 29 | 002-0362-00 | Door Switch (Includes Item 27) | 1 |
| 30 | 042-0001-09 | Roll Pin (Not Used on M9D) | 1 |
| 31 | 040-0008-50 | Screw | 4 |
| 32 | 050-2011-00 | Inside Door Cover | 1 |
| 33 | 040-0010-75 | Screw | 2 |
| 34 | 053-0912-00 | Door Handle (M9) | 1 |
| | 053-0912-01 | Door Handle (M9D) | 1 |
| 35 | 002-0364-00 | Ritter M9 Door Panel (w/decals) | 1 |
| | 002-0364-01 | Midmark M9 Door Panel (w/decals) | 1 |
| | 002-0364-02 | EMS M9 Door Panel (w/decals) | 1 |
| | 002-0364-03 | M9D Door Panel | 1 |
| 36 | 002-0360-00 | Filter | 1 |
| 37 | 050-2347-00 | Door Spring | 1 |
| 38 | 045-0000-04 | Washer | 2 |
| 39 | 057-0790-01 | Gasket Ring (Incl. in 002-0361-00 Kit) | 1 |

**Always Specify Model & Serial Number**

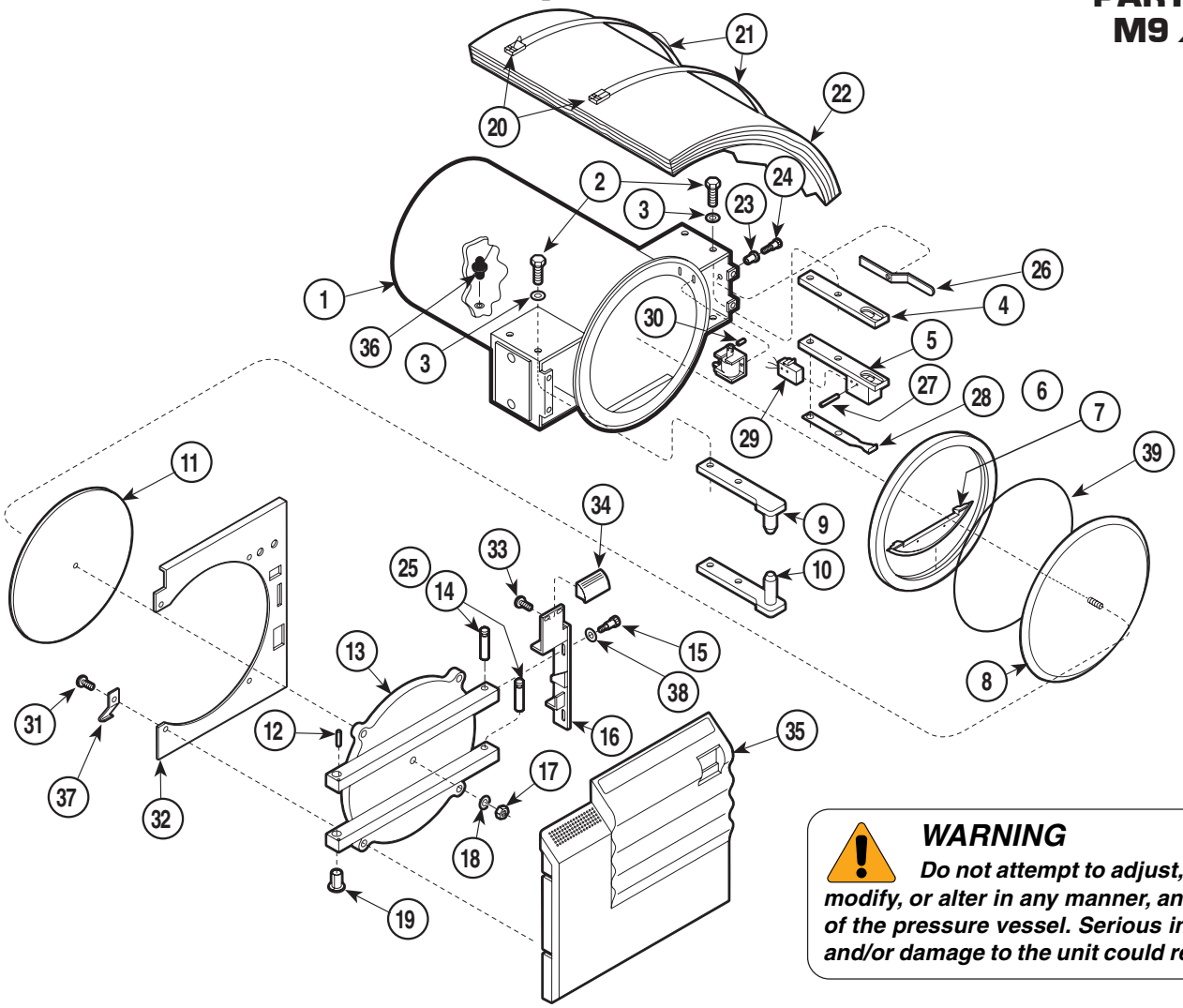
© Midmark Corporation 2002 SF-1827 Rev. 10/7



Printed in U.S.A.

# Pressure Vessel Components






**WARNING**

***Do not attempt to adjust, modify, or alter in any manner, any part of the pressure vessel. Serious injury and/or damage to the unit could result.***

MA202013

**Used on units with Serial Numbers:**
**CZ8200, DB1278, DX3007, DY1186, FD2132, FF1635, FG1472, FK3225, FL1964, LA1029, and OM21775 - thru Present**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | | Chamber | 1 |
| 2 | | Screw | 8 |
| 3 | | Washer | 8 |
| 4 | | Right Bracket | 1 |
| 5 | | Switch Weldment | 1 |
| 6 | 053-0366-00 | Door Gasket (Incl. in 002-0361-01 Kit) | 1 |
| 7 | 053-0903-00 | Dam Gasket (Incl. in 002-0361-01 Kit) | 1 |
| 8 | 030-1016-00 | Housing | 1 |
| 9 | | Top Bracket | 1 |
| 10 | | Bottom Bracket | 1 |
| 11 | 016-0395-01 | Door Insulation Pad | 1 |
| 12 | 042-0104-00 | Roll Pin | 1 |
| 13 | | Door | 1 |
| 14 | | Door Bolt | 2 |
| 15 | 042-0106-00 | Shoulder Screw | 2 |
| 16 | 050-3525-00 | Latch | 1 |
| 17 | 041-0000-00 | Nut | 1 |
| 18 | 045-0000-00 | Lockwasher | 1 |
| 19 | | Flange Bearing | 2 |
| 20 | H99387 | Aluminum Seal | 2 |
| 21 | H99388-36 | Insulation Strap | 2 |
| 22 | 053-0385-01 | Insulation Wrapper | 1 |
| 23 | 016-0131-18 | Flanged Bearing (Not Used on M9D) | 1 |
| 24 | 042-0106-01 | Shoulder Screw (Not Used on M9D) (Apply Lubricant #064-0002-00]) | 1 |
| 25 | 064-0014-00 | Grease | AR |
| 26 | 050-5192-00 | Latch Lever (Not Used on M9D) | 1 |
| 27 | 042-0001-23 | Roll Pin | 2 |
| 28 | 050-5245-01 | Spring Arm | 1 |
| 29 | 002-0362-00 | Door Switch (Includes Item 27) | 1 |
| 30 | 042-0001-09 | Roll Pin (Not Used on M9D) | 1 |
| 31 | 040-0008-50 | Screw | 4 |
| 32 | 050-2011-00 | Inside Door Cover | 1 |
| 33 | 040-0010-75 | Screw | 2 |
| 34 | 053-0912-00 | Door Handle (M9) | 1 |
| | 053-0912-01 | Door Handle (M9D) | 1 |
| 35 | 002-0364-00 | Ritter M9 Door Panel (w/decals) | 1 |
| | 002-0364-01 | Midmark M9 Door Panel (w/decals) | 1 |
| | 002-0364-02 | EMS M9 Door Panel (w/decals) | 1 |
| | 002-0364-03 | M9D Door Panel | 1 |
| 36 | 002-0360-00 | Filter | 1 |
| 37 | 050-2347-00 | Door Spring | 1 |
| 38 | 045-0000-04 | Washer | 2 |
| 39 | 057-0790-01 | Gasket Ring (Incl. in 002-0361-01 Kit) | 1 |

**Always Specify Model & Serial Number**

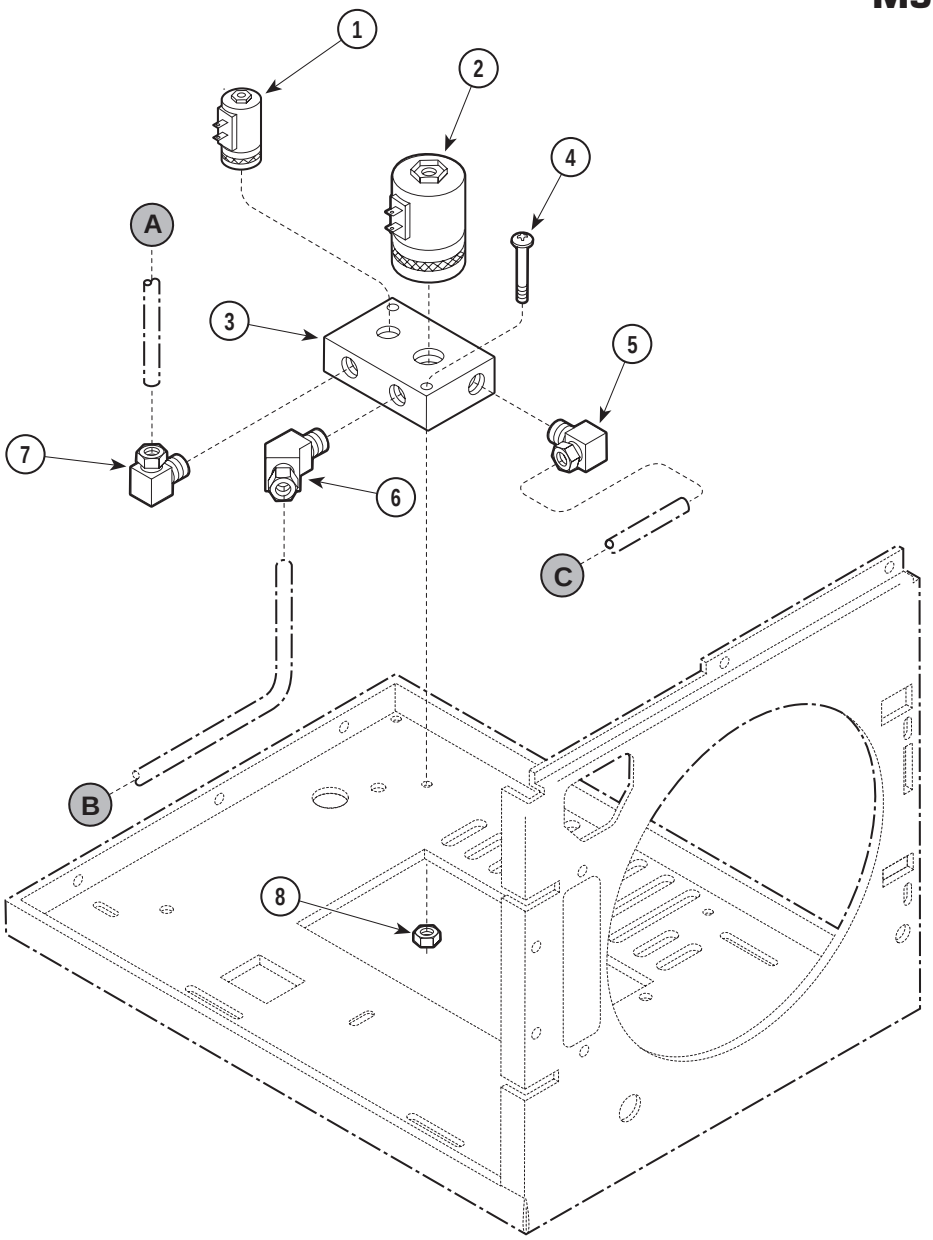
© Midmark Corporation 2002 SF-1827 Rev. 10/07



Printed in U.S.A.

# M9 Manifold Components






MA202102

## Used on units with Serial Number CZ1000 thru CZ1109

| Item | Part No. | Description | Qty. | Item | Part No. | Description | Qty. |
|---|---|---|---|---|---|---|---|
| 1 | 014-0199-00 | Solenoid Valve [Vent] | 1 | 5 | 014-0184-01 | Male 90° Elbow | 1 |
| 2 | 014-0200-00 | Solenoid Valve [Fill] | 1 | 6 | 014-0201-00 | Male 45° Elbow | 1 |
| 3 | 014-0198-00 | Manifold | 1 | 7 | 014-0184-00 | Male 90° Elbow | 1 |
| 4 | 040-0010-53 | Screw | 2 | 8 | 014-0010-04 | Nut | 2 |

**Always Specify Model & Serial Number**

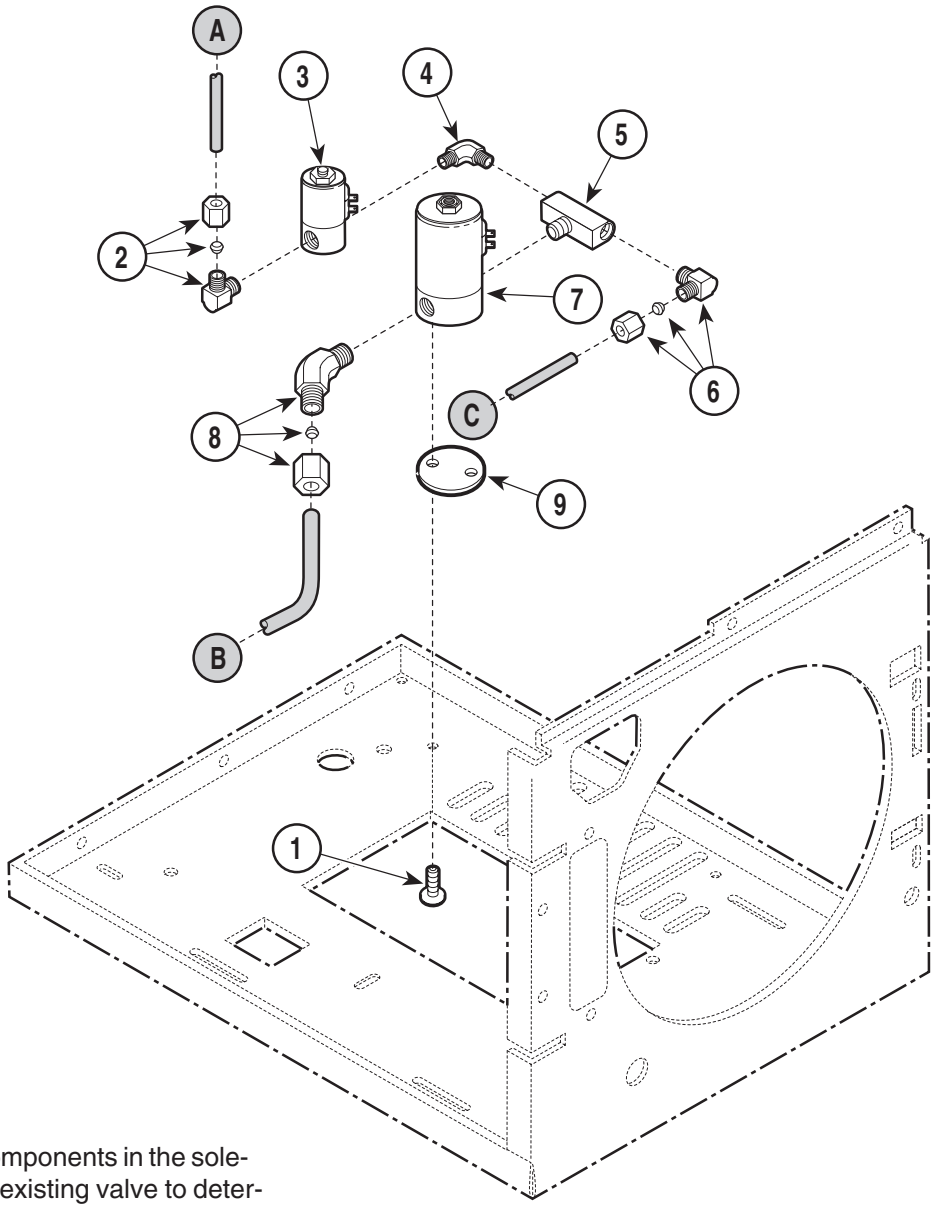
© Midmark Corporation 2002 SF-1827 Rev. 3/03



Printed in U.S.A

# M9 Manifold Components






## NOTE

When replacing components in the solenoid, examine the existing valve to determine if it was Full Wave Rectified (if so, will be marked **FWR**).

MA202205

**Used on units with Serial Numbers:**

| | | | |
|---|---|---|---|
| **CZ1110 thru CZ7236** | **DA1000 thru DA1006** | **DB1000 thru DB1272** | **DX1000 thru DX2906** |
| **DY1000 thru DY1182** | **FD1000 thru FD2104** | **FK1000 thru FK2324** | **FL1000 thru FL1963** |
| | **LA1000 thru LA1028** | **OM1000 thru OM20225** | |

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| | 029-1271-00 | Manifold Assembly (120V/60Hz) (includes items 2 thru 8) | |
| | 029-1271-01 | Manifold Assembly (230V/50Hz) (includes items 2 thru 8) | |
| 1 | 040-0010-74 | Screw | 2 |
| 2 | • 014-0184-00 | Male 90° Elbow | 1 |
| 3 | • 002-0366-00 | Solenoid Valve {120V/60Hz} [Vent] | 1 |
| | • 002-0366-01 | Solenoid Valve {230V/50Hz} [Vent] | 1 |
| | • 002-0366-02 | Solenoid Valve {100V/50Hz} [Vent] | 1 |
| | •• 014-0235-03 | • Replacement Coil (120V/60) | 1 |
| | •• 014-0235-04 | • Replacement Plunger | 1 |
| 4 | • 014-0218-01 | Male Elbow | 1 |
| 5 | • 014-0234-00 | Male Branch Tee | 1 |
| 6 | • 014-0184-01 | Male 90° Elbow | 1 |
| 7 | • 002-0365-00 | Solenoid Valve (120V/60Hz) [Fill] | 1 |
| | • 002-0365-01 | Solenoid Valve (230V/50Hz) [Fill] | 1 |
| | • 002-0365-02 | Solenoid Valve (100V/50Hz) [Fill] | 1 |
| | •• 014-0236-08 | • Replacement Coil (120V/60Hz) | 1 |
| | •• 014-0236-10 | • Replacement Coil (120V/50-60 **FWR**) | 1 |
| | •• 014-0236-09 | • Replmt. Plunger (120V/60Hz) | 1 |
| | •• 014-0236-11 | • Replmt. Plunger (120V/50-60 **FWR**) | 1 |
| | •• 002-0694-00 | • Replmt. Plunger & Coil (**FWR**) | 1 |
| 8 | • 014-0201-00 | Male 45° Elbow | 1 |
| 9 | 050-2657-00 | Spacer | 1 |

**Always Specify Model & Serial Number**

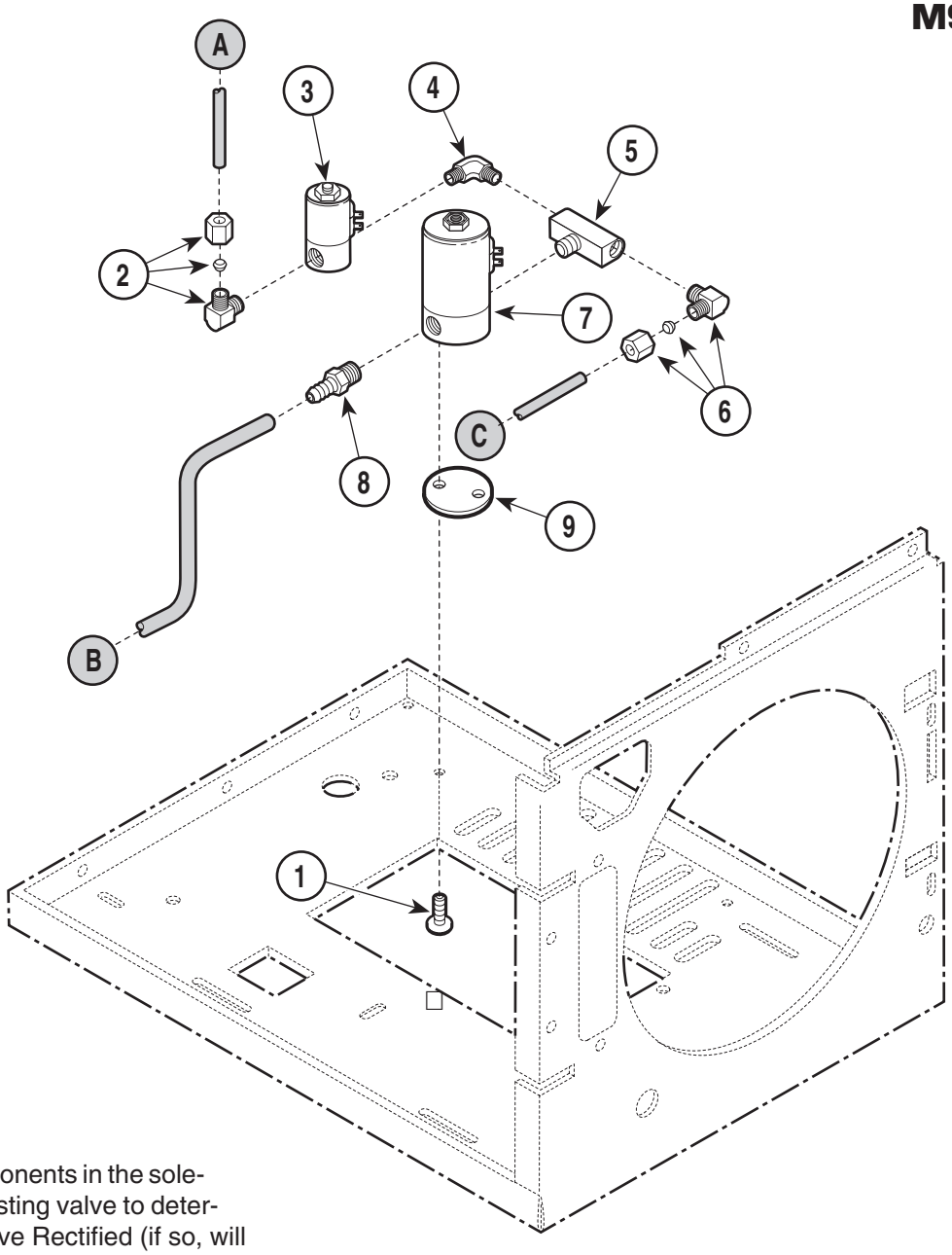
© Midmark Corporation 2002 SF-1827 Rev. 6/06



Printed in U.S.A.

# M9 Manifold Components






## NOTE

When replacing components in the solenoid, examine the existing valve to determine if it was Full Wave Rectified (if so, will be marked **FWR**).

MA510701

**Used on units with Serial Numbers:**
**CZ7237, DA1007, DB1273, DX2907, DY1183, FD2105, FK2325, FL1964, LA1029, and OM20226 - thru Present**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| | 029-1271-00 | Manifold Assembly (120V/60Hz) (includes items 2 thru 8) | |
| | 029-1271-01 | Manifold Assembly (230V/50Hz) (includes items 2 thru 8) | |
| 1 | 040-0010-74 | Screw | 2 |
| 2 | • 014-0184-00 | Male 90° Elbow | 1 |
| 3 | • 002-0366-00 | Solenoid Valve {120V/60Hz} [Vent] | 1 |
| | • 002-0366-01 | Solenoid Valve {230V/50Hz} [Vent] | 1 |
| | • 002-0366-02 | Solenoid Valve {100V/50Hz} [Vent] | 1 |
| | • • 014-0235-03 | • Replacement Coil (120V/60) | 1 |
| | • • 014-0235-04 | • Replacement Plunger | 1 |
| 4 | • 014-0218-01 | Male Elbow | 1 |
| 5 | • 014-0234-00 | Male Branch Tee | 1 |
| 6 | • 014-0184-01 | Male 90° Elbow | 1 |
| 7 | • 002-0365-00 | Solenoid Valve (120V/60Hz) [Fill] | 1 |
| | • 002-0365-01 | Solenoid Valve (230V/50Hz) [Fill] | 1 |
| | • 002-0365-02 | Solenoid Valve (100V/50Hz) [Fill] | 1 |
| | • • 014-0236-08 | • Replacement Coil (120V/60Hz) | 1 |
| | • • 014-0236-10 | • Replacement Coil (120V/50-60 **FWR**) | 1 |
| | • • 014-0236-09 | • Replmt. Plunger (120V/60Hz) | 1 |
| | • • 014-0236-11 | • Replmt. Plunger (120V/50-60 **FWR**) | 1 |
| | • • 002-0694-00 | • Replmt. Plunger & Coil (**FWR**) | 1 |
| 8 | • 014-0347-00 | Barb Fitting | 1 |
| 9 | 050-2657-00 | Spacer (Used on units with flat base) | 1 |

**Always Specify Model & Serial Number**

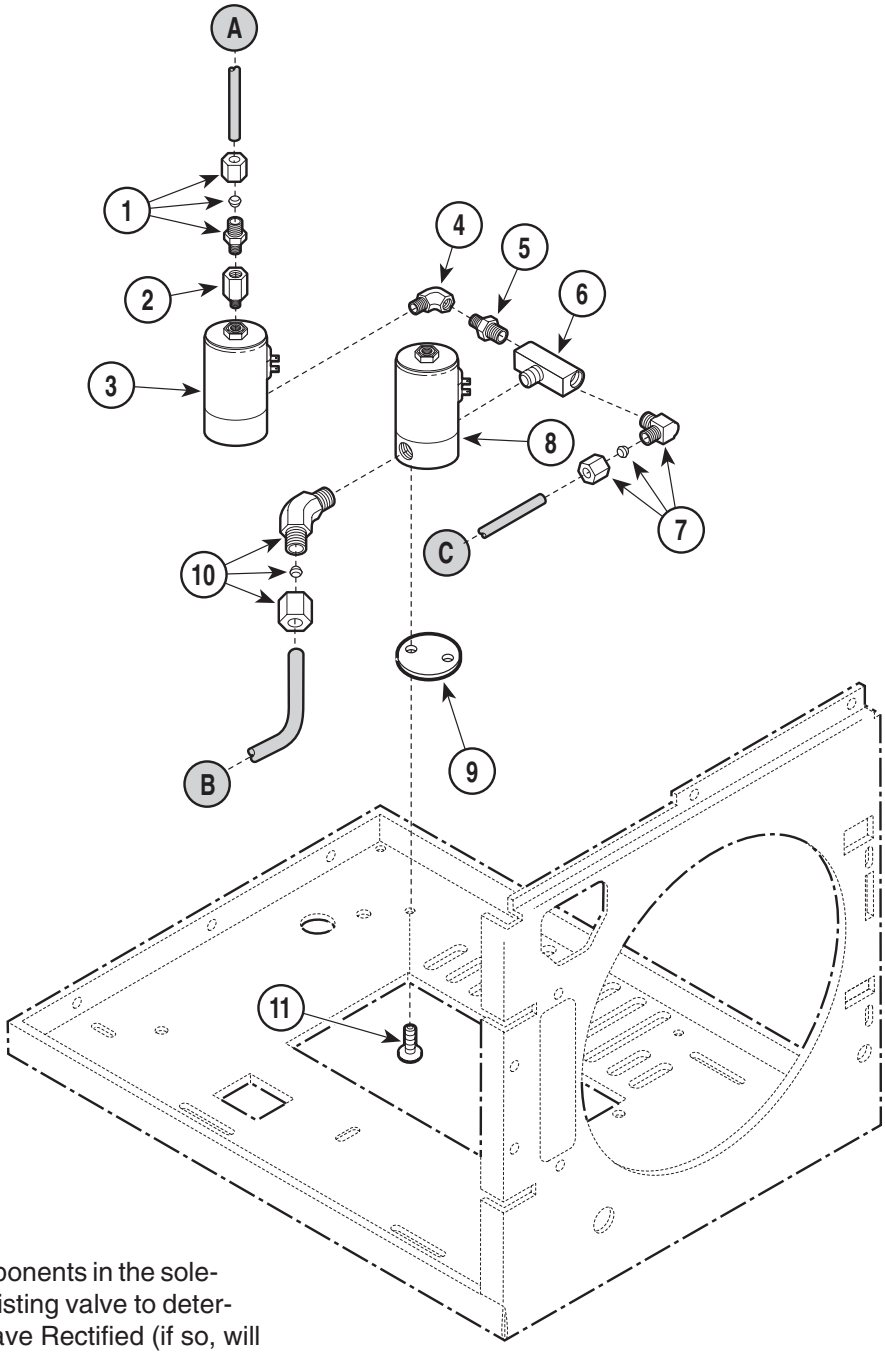
©Midmark Corporation 2002 SF-1827 Rev. 6/06



Printed in U.S.A.

# M9D Manifold Components






## NOTE

When replacing components in the solenoid, examine the existing valve to determine if it was Full Wave Rectified (if so, will be marked **FWR**).

MA442700

**Used on Units with Serial Numbers:**
**FF1000 thru FF1290 FG1000 thru FG1386**

| Item | Part No. | Description | Qty. | Item | Part No. | Description | Qty. |
|---|---|---|---|---|---|---|---|
| 1 | 014-0183-01 | Male Connector | 1 | 8 | 002-0365-00 | Solenoid Valve{120V/60Hz}) [Fill] | 1 |
| 2 | | Reducer Fitting | 1 | | • 014-0236-08 | • Replacement Coil (120V/60Hz) | 1 |
| 3 | 002-0519-00 | Solenoid Valve {120V/60Hz} [Vent] (Includes Item 2) | 1 | | • 014-0236-10 | • Replacement Coil (120V/50-60 **FWR**) | 1 |
| | | | | | • 014-0236-09 | • Replmt. Plunger (120V/60Hz) | 1 |
| | • 014-0275-02 | • Replacement Coil & Plunger | 1 | | • 014-0236-11 | • Replmt. Plunger (120V/50-60 **FWR**) | 1 |
| 4 | 014-0194-00 | Street Elbow | 1 | | • 002-0694-00 | • Replmt. Plunger & Coil (**FWR**) | 1 |
| 5 | 014-0276-00 | Reducer Nipple | 1 | 9 | 050-2657-00 | Spacer | 1 |
| 6 | 014-0234-00 | Male Branch Tee | 1 | 10 | 014-0201-00 | Male 45° Elbow | 1 |
| 7 | 014-0184-01 | Male 90° Elbow | 1 | 11 | 040-0010-74 | Screw | 2 |

**Always Specify Model & Serial Number**

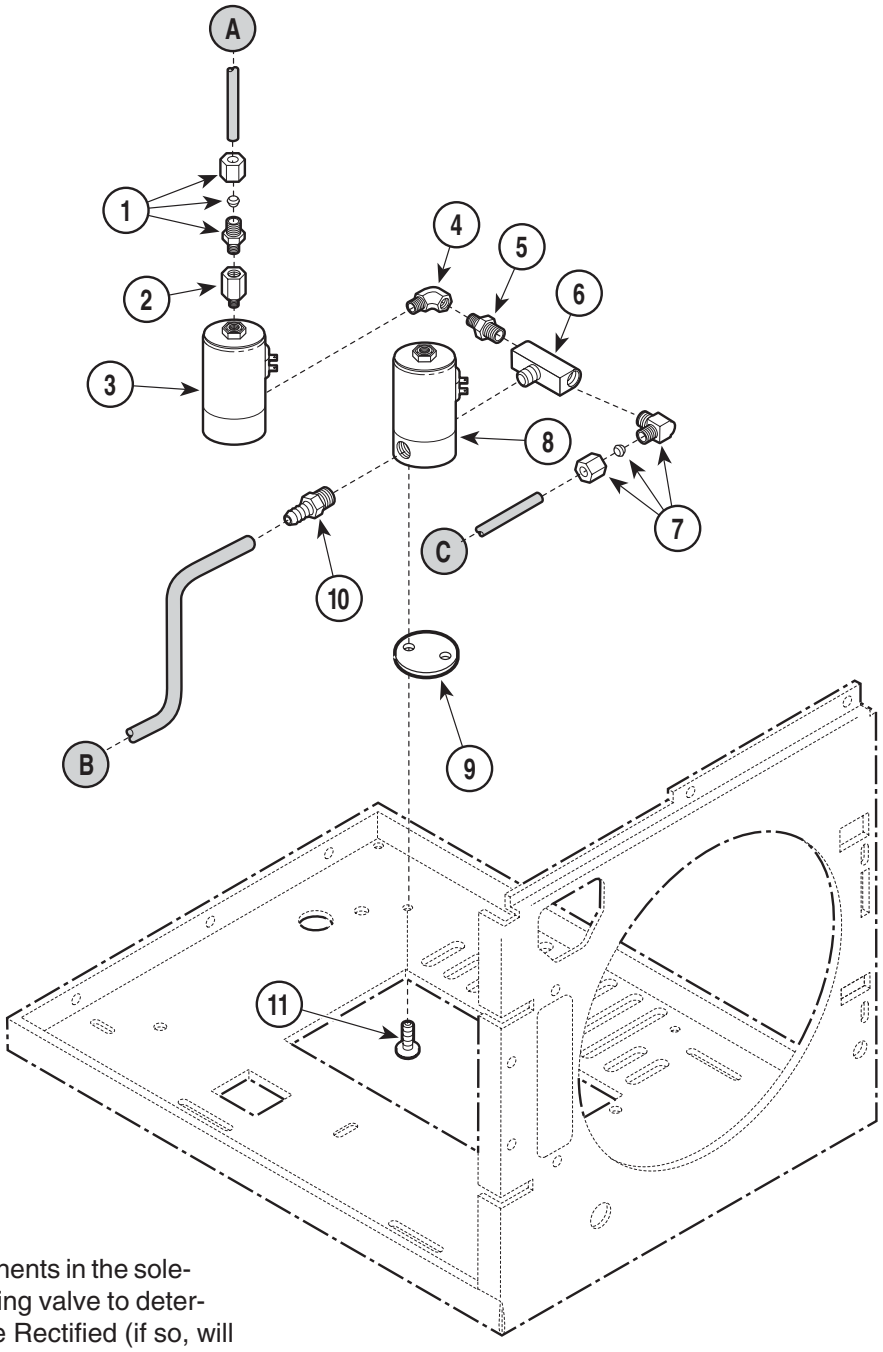
© Midmark Corporation 2002 SF-1827 Rev. 9/04



Printed in U.S.A.

# M9D Manifold Components






## NOTE

When replacing components in the solenoid, examine the existing valve to determine if it was Full Wave Rectified (if so, will be marked **FWR**).

MA511100

**Used on Units with Serial Numbers:**
**FF1291, FG1387 - thru Present**

| Item | Part No. | Description | Qty. | Item | Part No. | Description | Qty. |
|---|---|---|---|---|---|---|---|
| 1 | 014-0183-01 | Male Connector | 1 | 8 | 002-0365-00 | Solenoid Valve{120V/60Hz}) [Fill] | 1 |
| 2 | | Reducer Fitting | 1 | | • 014-0236-08 | • Replacement Coil (120V/60Hz) | 1 |
| 3 | 002-0519-00 | Solenoid Valve {120V/60Hz} [Vent] (Includes Item 2) | 1 | | • 014-0236-10 | • Replacement Coil (120V/50-60 **FWR**) | 1 |
| | | | | | • 014-0236-09 | • Replmt. Plunger (120V/60Hz) | 1 |
| | • 014-0275-02 | • Replacement Coil & Plunger | 1 | | • 014-0236-11 | • Replmt. Plunger (120V/50-60 **FWR**) | 1 |
| 4 | 014-0194-00 | Street Elbow | 1 | | • 002-0694-00 | • Replmt. Plunger & Coil (**FWR**) | 1 |
| 5 | 014-0276-00 | Reducer Nipple | 1 | 9 | 050-2657-00 | Spacer (Used on Flat Surfaced Base) | 1 |
| 6 | 014-0234-00 | Male Branch Tee | 1 | 10 | 014-0347-00 | Barb Fitting | 1 |
| 7 | 014-0184-01 | Male 90° Elbow | 1 | 11 | 040-0010-74 | Screw | 2 |

**Always Specify Model & Serial Number**

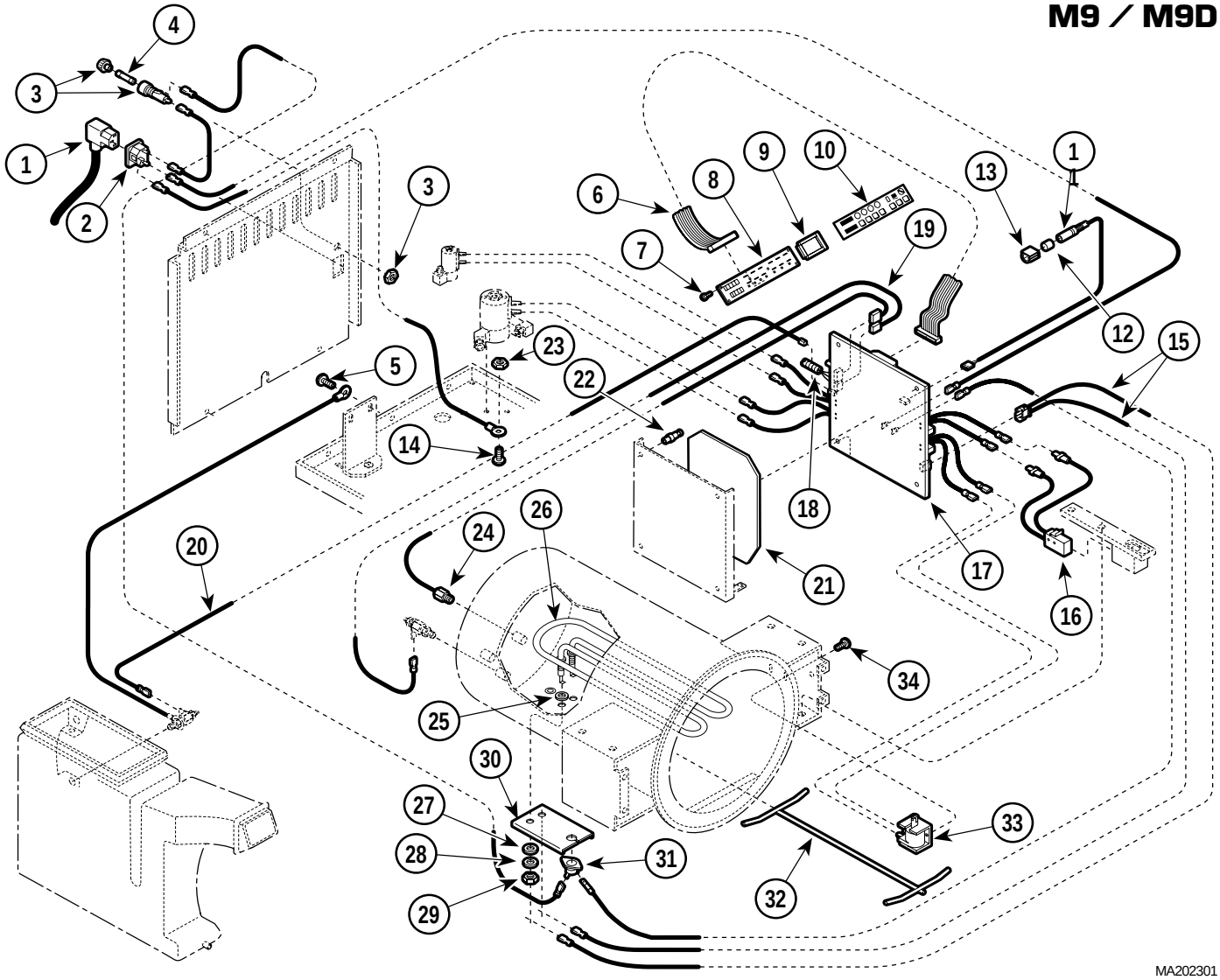
© Midmark Corporation 2002 SF-1827 Rev. 9/04



Printed in U.S.A.

# Electrical Components






MA202301

**Used on units with Serial Numbers:**

**CZ1000 thru CZ1684 DA1000 thru DA1001 DB1000 thru DB1010**
**DX1000 thru DX1170 DY1000 thru DY1007 OM1000 thru OM5130**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | | Cordset (Refer to Wiring Diagram) | 1 |
| 2 | 015-0639-00 | AC Connector Receptacle | 1 |
| 3 | A128003 | Fuse Holder w/Nut (Early Units Only) | 1 |
| 4 | | Fuse | 1 |
| 5 | 040-0010-75 | Screw | 1 |
| 6 | 015-0646-00 | Ribbon Connector | 1 |
| 7 | 040-0006-04 | Screw | 6 |
| 8 | 002-0369-00 | Display PC Board (Domestic) | 1 |
| | 002-0369-01 | Display PC Board (Export) | 1 |
| 9 | 053-0454-00 | Display Gasket | 1 |
| 10 | 061-0272-01 | Display Overlay (Domestic) | 1 |
| | 061-0272-00 | Display Overlay (Export) | 1 |
| 11 | 015-0978-00 | Harness - PCB/Printer | 1 |
| 12 | 053-0440-00 | Cap Plug | 1 |
| 13 | 053-0389-00 | Printer Harness Clip | 1 |
| 14 | 040-0010-46 | Screw | 1 |
| 15 | 015-0657-00 | PCB/Heater Harness | 1 |
| 16 | 002-0362-00 | Switch Assembly | 1 |
| 17 | | Control PC Board (See Breakdown Elsewhere) | Ref |
| 18 | 015-0257-02 | Flex Guard Tubing | 1 |
| 19 | 015-0654-00 | Chamber Level Sensor Harness | 1 |
| 20 | 015-0655-00 | Reservoir Sensor Harness | 1 |
| 21 | 053-0455-00 | Insulator | 1 |
| 22 | 053-0295-01 | Standoff | 3 |
| 23 | 041-0010-04 | Locknut | 1 |
| 24 | 002-0357-00 | Temperature Probe Assembly | 1 |
| 25 | H98137 | Gasket | 2 |
| 26 | 002-0367-00 | Heat Element-{120V}(Includes Item 25) | 1 |
| | 002-0367-01 | Heat Element-{230V}(Includes Item 25) | 1 |
| | 002-0367-02 | Heat Element-{100V}(Includes Item 25) | 1 |
| 27 | H97971 | Washer | 2 |
| 28 | 045-0001-56 | Lockwasher | 2 |
| 29 | H97949 | Nut | 2 |
| 30 | H225617 | Bracket | 1 |
| 31 | 002-0370-00 | Thermostat | 1 |
| 32 | 030-0769-00 | Spacer Assembly | 1 |
| 33 | 002-0363-00 | Solenoid-{120V} | 1 |
| | 002-0363-01 | Solenoid-{240V} | 1 |
| | 002-0363-02 | Solenoid-{100V} | 1 |
| 34 | 040-0010-74 | Screw | 2 |

**Always Specify Model & Serial Number**

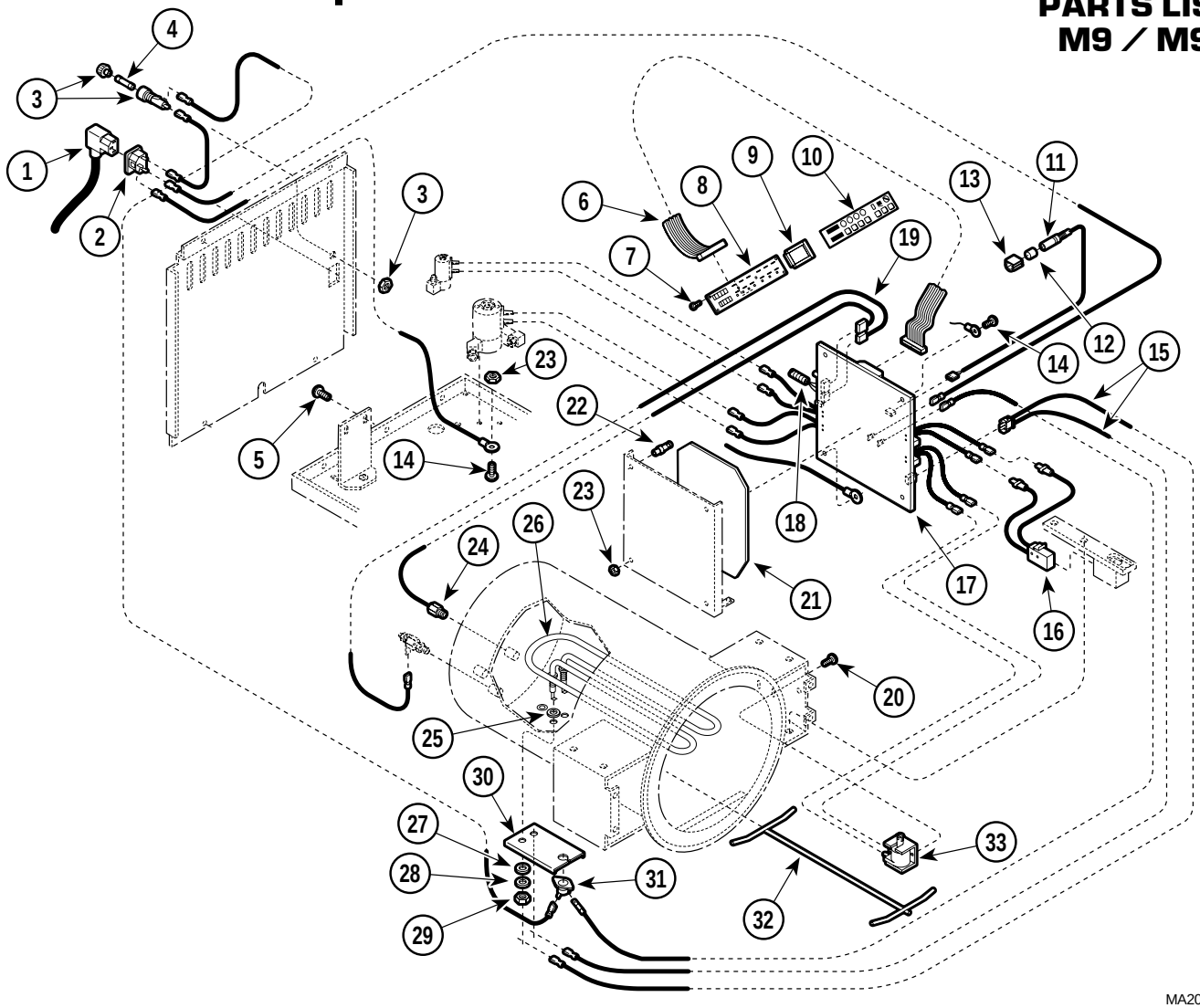
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Electrical Components






MA2023-02

**Used on units with Serial Numbers:**

**CZ1685 thru CZ2456 DA1002 thru DA1004 DB1011 thru DB1149**
**DX1171 thru DX1969 DY1008 thru DY1138 OM5131 thru OM9448**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | | Cordset (Refer to Wiring Diagram) | 1 |
| 2 | 015-0639-00 | AC Connector Receptacle | 1 |
| 3 | A128003 | Fuse Holder w/Nut (Early Units Only) | 1 |
| 4 | | Fuse | 1 |
| 5 | 040-0010-75 | Screw | 1 |
| 6 | 015-0646-00 | Ribbon Connector | 1 |
| 7 | 040-0006-04 | Screw | 6 |
| 8 | 002-0369-00 | Display PC Board (Domestic) | 1 |
| | 002-0369-01 | Display PC Board (Export) | 1 |
| 9 | 053-0454-00 | Display Gasket | 1 |
| 10 | 061-0272-01 | Display Overlay (Domestic) | 1 |
| | 061-0272-00 | Display Overlay (Export) | 1 |
| 11 | 015-0978-00 | Harness - PCB/Printer | 1 |
| 12 | 053-0440-00 | Cap Plug | 1 |
| 13 | 053-0389-00 | Printer Harness Clip | 1 |
| 14 | 040-0010-46 | Screw | 1 |
| 15 | 015-0657-00 | PCB/Heater Harness | 1 |
| 16 | 002-0362-00 | Switch Assembly | 1 |
| 17 | | Control PC Board (See Breakdown Elsewhere) | Ref |
| 18 | 015-0257-02 | Flex Guard Tubing | 1 |
| 19 | 015-0654-00 | Chamber Level Sensor Harness | 1 |
| 20 | 040-0010-74 | Screw | 2 |
| 21 | 053-0455-00 | Insulator | 1 |
| 22 | 053-0295-01 | Standoff | 3 |
| 23 | 041-0010-04 | Locknut | 1 |
| 24 | 002-0357-00 | Temperature Probe Assembly | 1 |
| 25 | H98137 | Gasket | 2 |
| 26 | 002-0367-00 | Heat Element-{120V}(Includes Item 25) | 1 |
| | 002-0367-01 | Heat Element-{230V}(Includes Item 25) | 1 |
| | 002-0367-02 | Heat Element-{100V}(Includes Item 25) | 1 |
| 27 | H97971 | Washer | 2 |
| 28 | 045-0001-56 | Lockwasher | 2 |
| 29 | H97949 | Nut | 2 |
| 30 | H225617 | Bracket | 1 |
| 31 | 002-0370-00 | Thermostat | 1 |
| 32 | 030-0769-00 | Spacer Assembly | 1 |
| 33 | 002-0363-00 | Solenoid-{120V} | 1 |
| | 002-0363-01 | Solenoid-{240V} | 1 |
| | 002-0363-02 | Solenoid-{100V} | 1 |

**Always Specify Model & Serial Number**

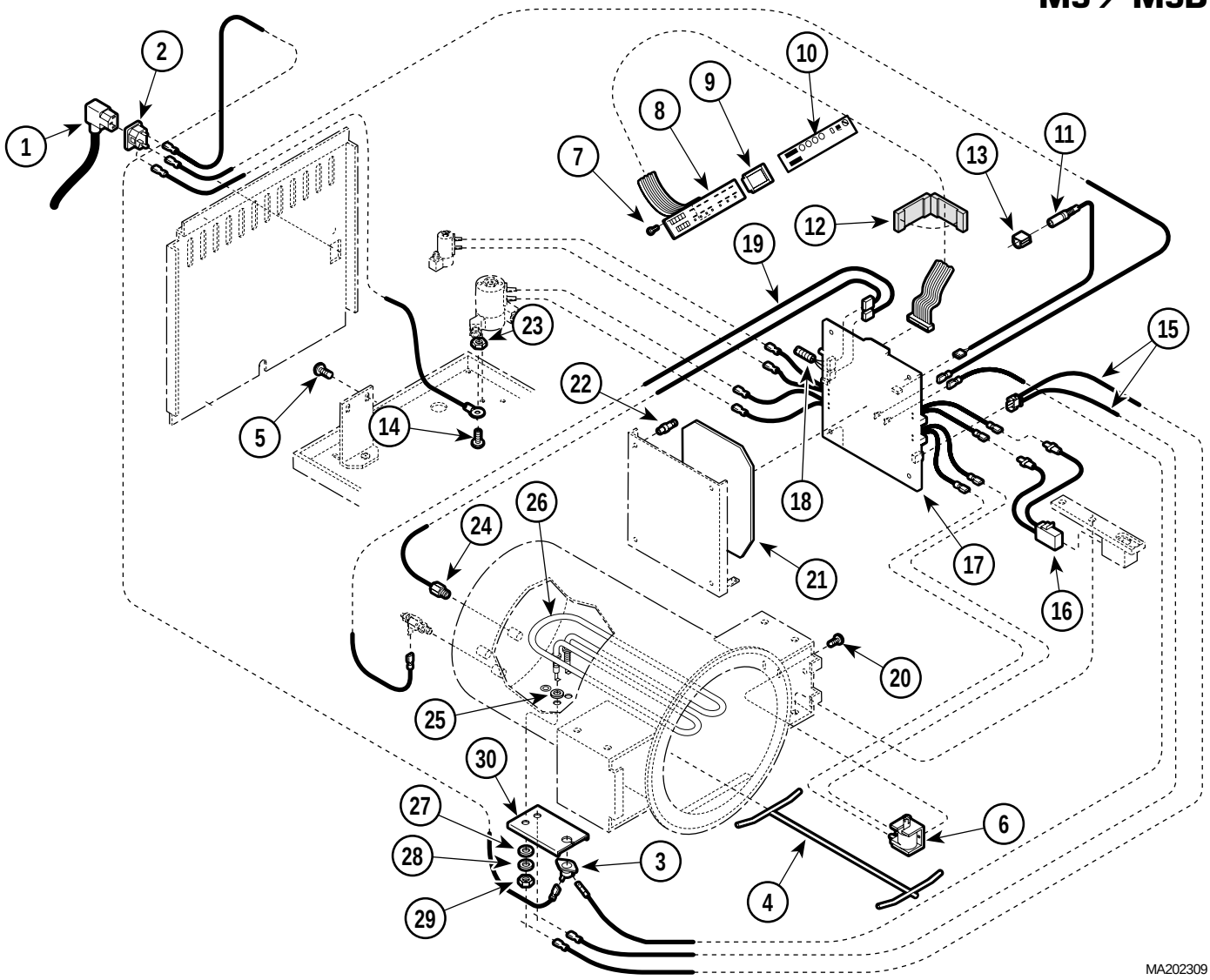
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Electrical Components






MA202309

**Used on units with Serial Numbers:**
**CZ2457 thru CZ4590 FF1000 thru FF1054 FG1000 thru FG1137 OM9449 thru OM14723**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | | Cordset (Refer to Wiring Diagram) | 1 |
| 2 | 015-0639-00 | AC Connector Receptacle | 1 |
| 3 | 002-0370-00 | Thermostat | 1 |
| 4 | 057-0425-00 | Spacer Assembly | 1 |
| 5 | 040-0010-75 | Screw | 1 |
| 6 | 002-0363-00 | Solenoid-{120V} (M9 only) | 1 |
| | 002-0363-01 | Solenoid-{240V} (M9 only) | 1 |
| | 002-0363-02 | Solenoid-{100V} (M9 only) | 1 |
| 7 | 040-0006-04 | Screw | 6 |
| 8 | 002-0369-02 | Display PC Board (Domestic) | 1 |
| | 002-0369-03 | Display PC Board (Export) | 1 |
| 9 | 053-0454-00 | Display Gasket | 1 |
| 10 | 061-0272-01 | M9 Display Overlay (Domestic) | 1 |
| | 061-0272-00 | M9 Display Overlay (Export ) | 1 |
| | 061-0272-02 | M9 Display Overlay (French ) | 1 |
| | 061-0531-00 | M9D Display Overlay | 1 |
| 11 | | PCB/Printer Harness (Refer to "Printer Components" Elsewhere) | 1 |
| 12 | 015-1096-00 | Flat Cable EMI Suppression (Used Only On Certain Export Units) | 1 |
| 13 | 053-0389-01 | Printer Harness Clip | 1 |
| 14 | 040-0010-46 | Screw | 1 |
| 15 | 015-0657-00 | PCB/Heater Harness | 1 |
| 16 | 002-0362-00 | Switch Assembly | 1 |
| 17 | | Control PC Board (Refer to "Control PC Board" Elsewhere) | Ref |
| 18 | 015-0257-02 | Flex Guard Tubing | 1 |
| 19 | 015-0654-00 | Chamber Level Sensor Harness | 1 |
| 20 | 040-0010-74 | Screw (M9 only) | 2 |
| 21 | 053-0455-00 | Insulator | 1 |
| 22 | 053-0295-01 | Standoff | 3 |
| 23 | 041-0010-04 | Locknut | 1 |
| 24 | 002-0357-00 | Temperature Probe Assembly | 1 |
| 25 | H98137 | Gasket | 2 |
| 26 | 002-0367-00 | Heat Element-{120V}(Includes Item 25) | 1 |
| | 002-0367-01 | Heat Element-{230V}(Includes Item 25) | 1 |
| | 002-0367-02 | Heat Element-{100V}(Includes Item 25) | 1 |
| 27 | H97971 | Washer | 2 |
| 28 | 045-0001-56 | Lockwasher | 2 |
| 29 | H97949 | Nut | 2 |
| 30 | H225617 | Bracket | 1 |

**Always Specify Model & Serial Number**

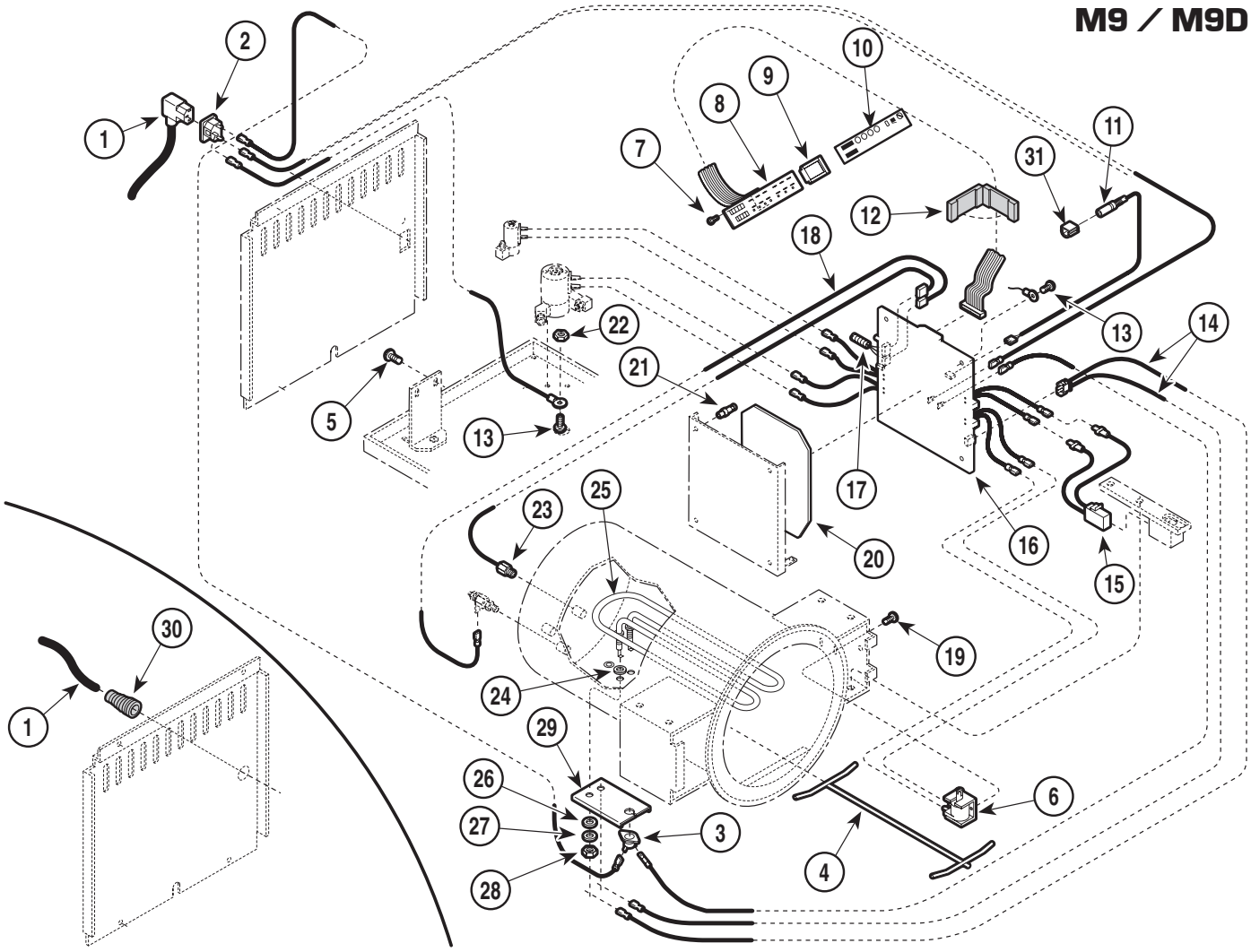
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Electrical Components






MA376103

## Used on Units with Serial Numbers:

**CZ4591, DA1005, DB1150, DX1970, DY1139, FD1000, FK1000, FL1000, LA1000, and OM14724 - thru Present**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | | Cordset (Refer to Wiring Diagram) | 1 |
| 2 | 015-0639-00 | AC Connector Receptacle | 1 |
| 3 | 002-0370-00 | Thermostat | 1 |
| 4 | 057-0425-00 | Spacer Assembly | 1 |
| 5 | 040-0010-75 | Screw | 1 |
| 6 | 002-0363-00 | Solenoid-{120V} | 1 |
| | 002-0363-01 | Solenoid-{240V} | 1 |
| | 002-0363-02 | Solenoid-{100V} | 1 |
| 7 | 040-0006-04 | Screw | 6 |
| 8 | 002-0369-02 | Display PC Board (Domestic) | 1 |
| | 002-0369-03 | Display PC Board (Export ) | 1 |
| 9 | 053-0454-00 | Display Gasket | 1 |
| 10 | 061-0272-01 | Display Overlay (Domestic ) | 1 |
| | 061-0272-00 | Display Overlay (Export) | 1 |
| | 061-0272-02 | Display Overlay (French) | 1 |
| | 061-0702-18 | Display Overlay (Polish) | 1 |
| 11 | | PCB/Printer Harness (Refer to "Printer Components" Elsewhere) | 1 |
| 12 | 015-1096-00 | Flat Cable EMI Suppression (Used Only On Certain Export Units) | 1 |
| 13 | 040-0010-46 | Screw | 1 |
| 14 | 015-0657-00 | PCB/Heater Harness | 1 |
| 15 | 002-0362-00 | Switch Assembly | 1 |
| 16 | | Control PC Board (Refer to "Control PC Board" Elsewhere) | Ref |
| 17 | 015-0257-02 | Flex Guard Tubing | 1 |
| 18 | 015-0654-00 | Chamber Level Sensor Harness | 1 |
| 19 | 040-0010-74 | Screw | 2 |
| 20 | 053-0455-00 | Insulator | 1 |
| 21 | 053-0295-01 | Standoff | 3 |
| 22 | 041-0010-04 | Locknut | 1 |
| 23 | 002-0357-00 | Temperature Probe Assembly | 1 |
| 24 | H98137 | Gasket | 2 |
| 25 | 002-0367-00 | Heat Element-{120V}(Includes Item 24) | 1 |
| | 002-0367-01 | Heat Element-{230V}(Includes Item 24) | 1 |
| | 002-0367-02 | Heat Element-{100V}(Includes Item 24) | 1 |
| 26 | H97971 | Washer | 2 |
| 27 | 045-0001-56 | Lockwasher | 2 |
| 28 | H97949 | Nut | 2 |
| 29 | 050-3503-00 | Bracket | 1 |
| 30 | 015-1137-00 | Strain Relief Bushing (120 V. Units Only) | 1 |
| 31 | 053-0389-01 | Printer Harness Clip | 1 |

**Always Specify Model & Serial Number**

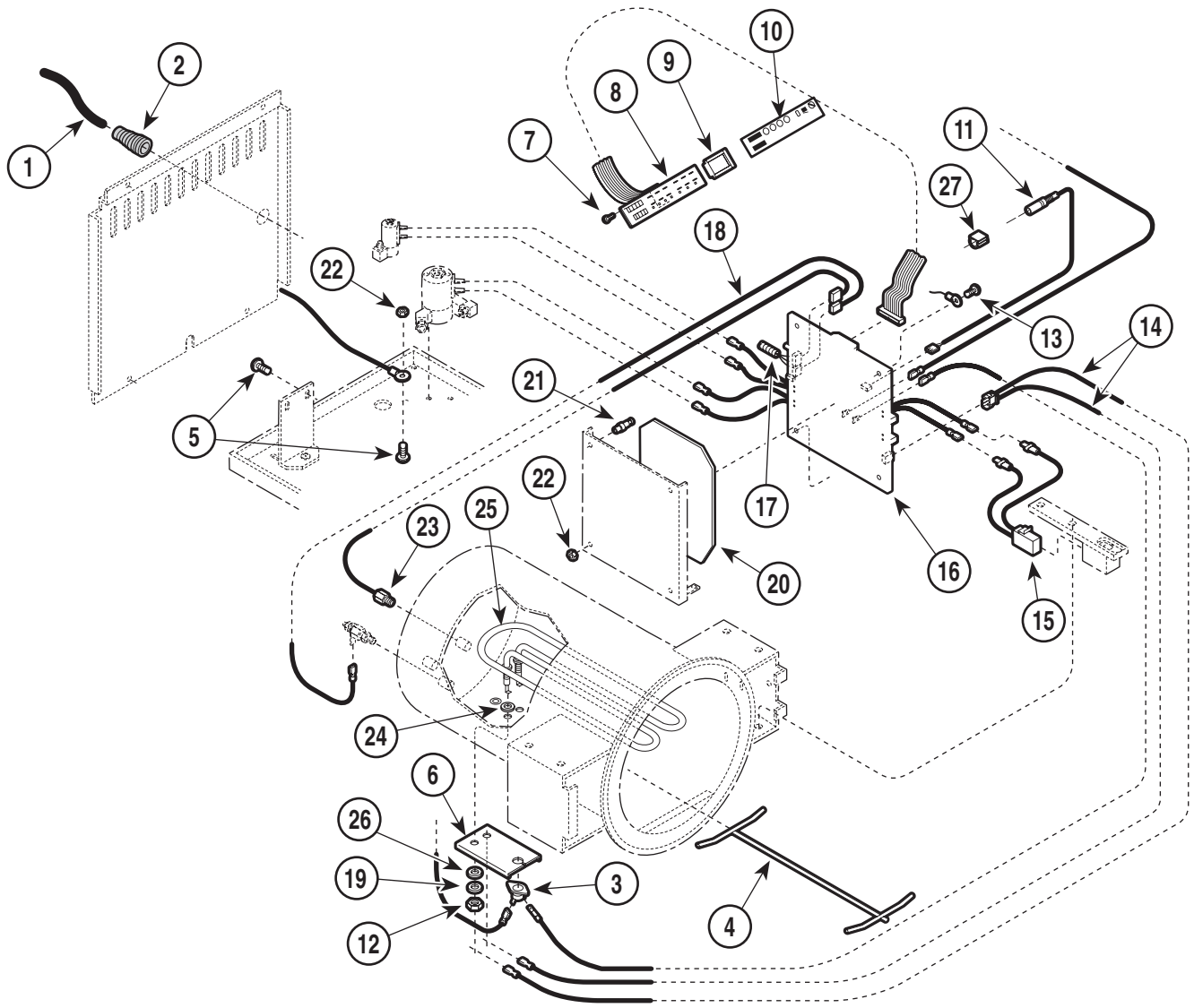
© Midmark Corporation 2002 SF-1827 Rev. 9/07



Printed in U.S.A.

# Electrical Components






MA442901

## Used on Units with Serial Numbers: FF1055 and FG1138 - thru Present

| Item | Part No. | Description | Qty. | Item | Part No. | Description | Qty. |
|---|---|---|---|---|---|---|---|
| 1 | | Cordset (Refer to Wiring Diagram) | 1 | 15 | 002-0362-00 | Switch Assembly | 1 |
| 2 | 015-1137-00 | Strain Relief Bushing | 1 | 16 | | Control PC Board (Refer to "Control PC Board" Elsewhere) | Ref |
| 3 | 002-0370-00 | Thermostat | 1 | | | | |
| 4 | 057-0425-00 | Spacer Assembly | 1 | 17 | 015-0257-02 | Flex Guard Tubing | 1 |
| 5 | 040-0010-75 | Screw | 1 | 18 | 015-0654-00 | Chamber Level Sensor Harness | 1 |
| 6 | H225617 | Bracket | 1 | 19 | 045-0001-56 | Lockwasher | 2 |
| 7 | 040-0006-04 | Screw | 6 | 20 | 053-0455-00 | Insulator | 1 |
| 8 | 002-0369-02 | Display PC Board | 1 | 21 | 053-0295-01 | Standoff | 3 |
| 9 | 053-0454-00 | Display Gasket | 1 | 22 | 041-0010-04 | Locknut | 1 |
| 10 | 061-0531-00 | Display Overlay | 1 | 23 | 002-0357-00 | Temperature Probe Assembly | 1 |
| 11 | | PCB/Printer Harness (Refer to "Printer Components" Elsewhere) | 1 | 24 | H98137 | Gasket | 2 |
| | | | | 25 | 002-0367-00 | Heat Element (Includes Item 24) | 1 |
| 12 | H97949 | Nut | 2 | 26 | H97971 | Washer | 2 |
| 13 | 040-0010-46 | Screw | 1 | 27 | 015-1395-00 | Tubing Flex Guard | 1 |
| 14 | 015-0657-00 | PCB/Heater Harness | 1 | | | | |

**Always Specify Model & Serial Number**

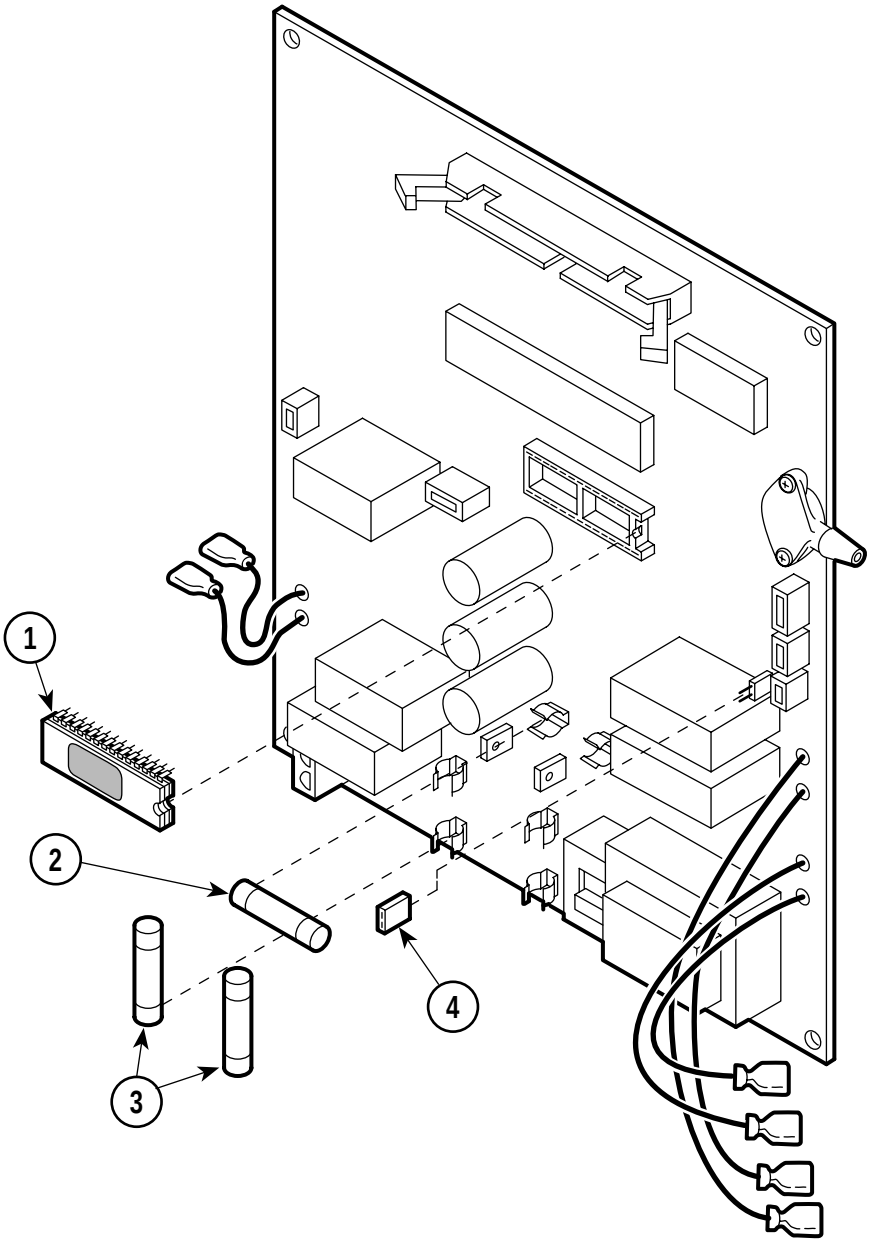
© Midmark Corporation 2002 SF-1827 Rev 9/07



Printed in U.S.A.

# M9 Control PC Board






MA2220-01

**Used on units with Serial Numbers:**
**CZ1000 thru CZ2456 DA1000 thru DA1004 DB1000 thru DB1149**
**DX1170 thru DX1969 DY1000 thru DY1138 OM1000 thru OM9448**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| | 002-0434-00 | Control PC Board {115 V Domestic} (Includes Item 1thru 3) | 1 |
| | 002-0434-04 | Control PC Board {230 V Export} (Includes Item 1 thru 3) | 1 |
| | 002-0434-05 | Control PC Board {100 V Export} (Includes Item 1 thru 4) | 1 |
| 1 | • | • M9 EPROM | Ref |
| 2 | • 015-0346-08 | • Printer Fuse (3 amp/250 V) | 1 |
| 3 | • 015-0346-07 | • Line Fuse (15 amp/250 V) {Used on 115 V Domestic Units Only} | 2 |
| | • 015-0346-11 | • Line Fuse (8 amp/250 V) {Used on 230 V Export Units Only} | 2 |
| | • 015-0346-06 | • Line Fuse (20 amp/250 V) {Used on 100 V Export Units Only} | 2 |
| 4 | • 015-0880-00 | • 2 Position Jumper {Used on 230 V & 100 V Export Units Only} | 1 |

**Always Specify Model & Serial Number**

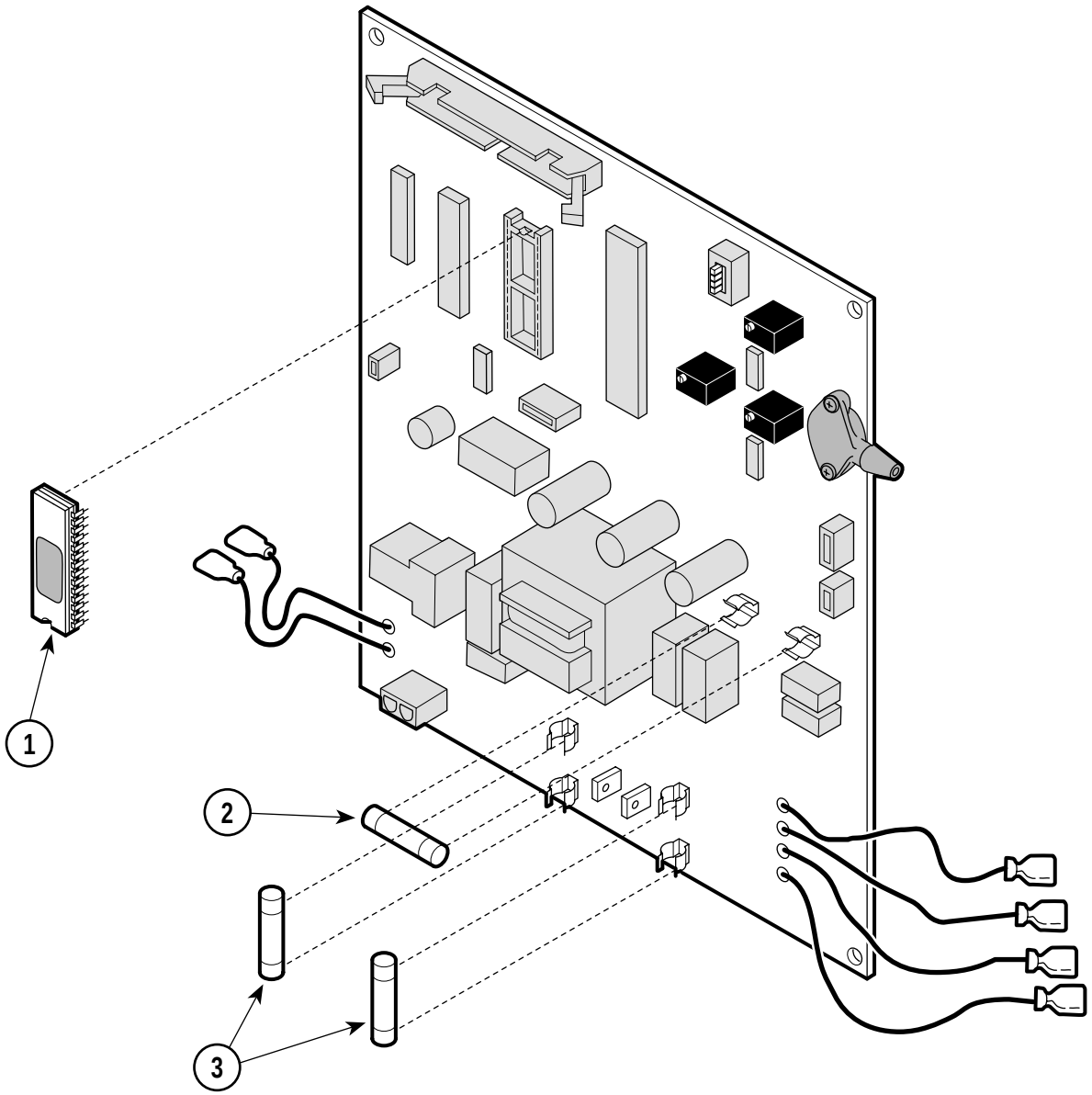
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# M9 Control PC Board






MA281100

**Used on Units with Serial Numbers:**
**FD1000 thru FD1399**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| | 002-0434-04 | Control PC Board {230 V. French Export} (Includes Item 1thru 3) | 1 |
| 1 | • | • M9 EPROM | Ref |
| 2 | • 015-0346-08 | • Printer Fuse (3 amp / 250 V.) | 1 |
| 3 | • 015-0346-11 | • Line Fuse (8 amp / 250 V) {Used on 230 V Export Units Only} | 2 |

**Always Specify Model & Serial Number**

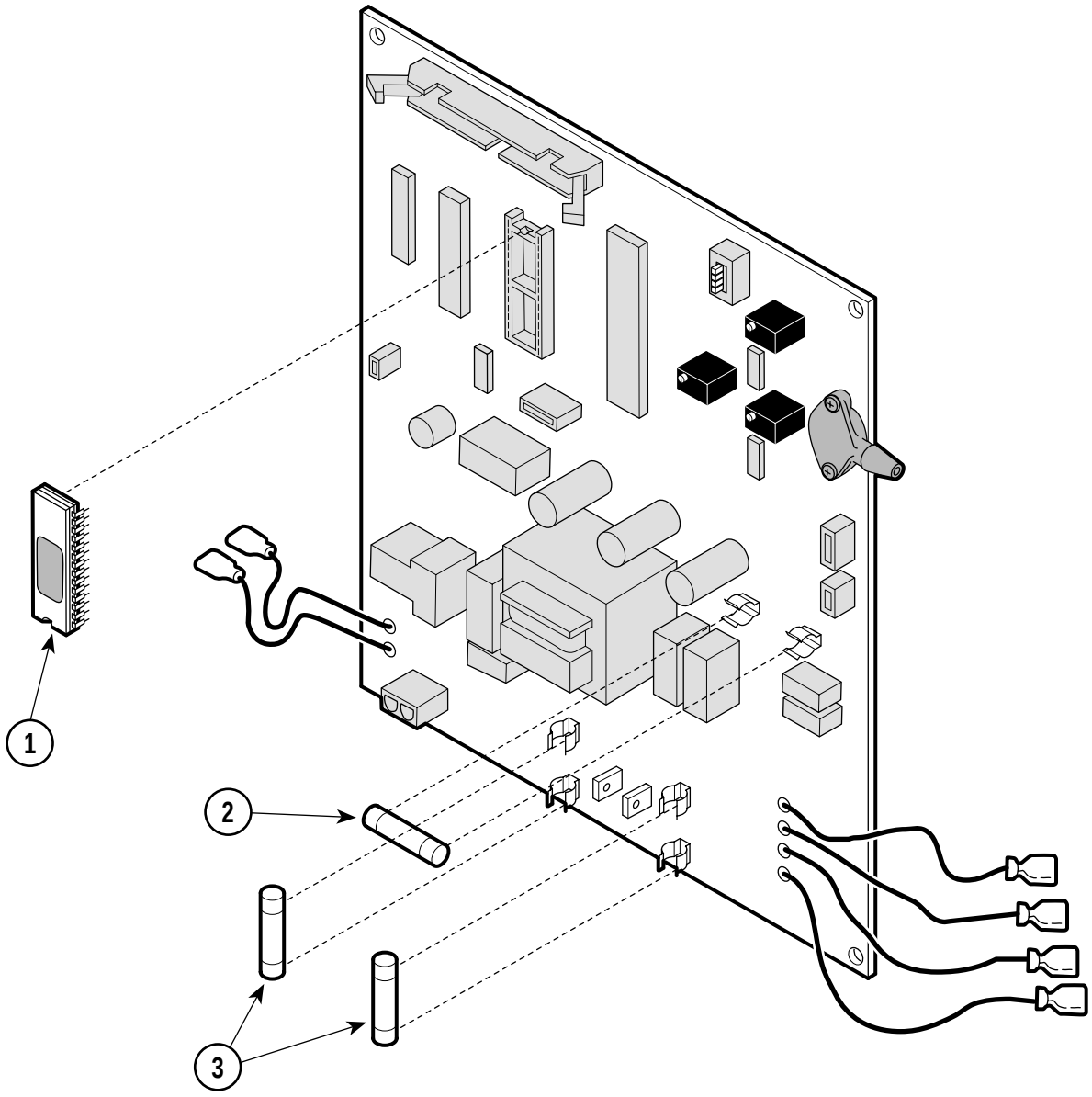
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# M9 Control PC Board






MA281100

**Used on units with Serial Numbers:**
**CZ2457, DA1005, DB1150, DX1970, DY1139, FD1400, FK1000, FL1000, LA1000, and OM9449 - thru Present**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| | 002-0434-03 | Control PC Board {115 V Domestic} (Includes Item 1thru 3) | 1 |
| | 002-0434-06 | Control PC Board {230 V French Export} (Includes Item 1 thru 3) | 1 |
| | 002-0434-04 | Control PC Board {230 V Export} (Includes Item 1 thru 3) | 1 |
| | 002-0434-05 | Control PC Board {100 V Export} (Includes Item 1 thru 4) | 1 |
| 1 | • | • M9 EPROM | Ref |
| 2 | • 015-0346-08 | • Printer Fuse (3 amp/250 V) | 1 |
| 3 | • 015-0346-07 | • Line Fuse (15 amp/250 V) {Used on 115 V Domestic Units Only} | 2 |
| | • 015-0346-11 | • Line Fuse (8 amp/250 V) {Used on 230 V Export Units Only} | 2 |
| | • 015-0346-06 | • Line Fuse (20 amp/250 V) {Used on 100 V Export Units Only} | 2 |

**Always Specify Model & Serial Number**

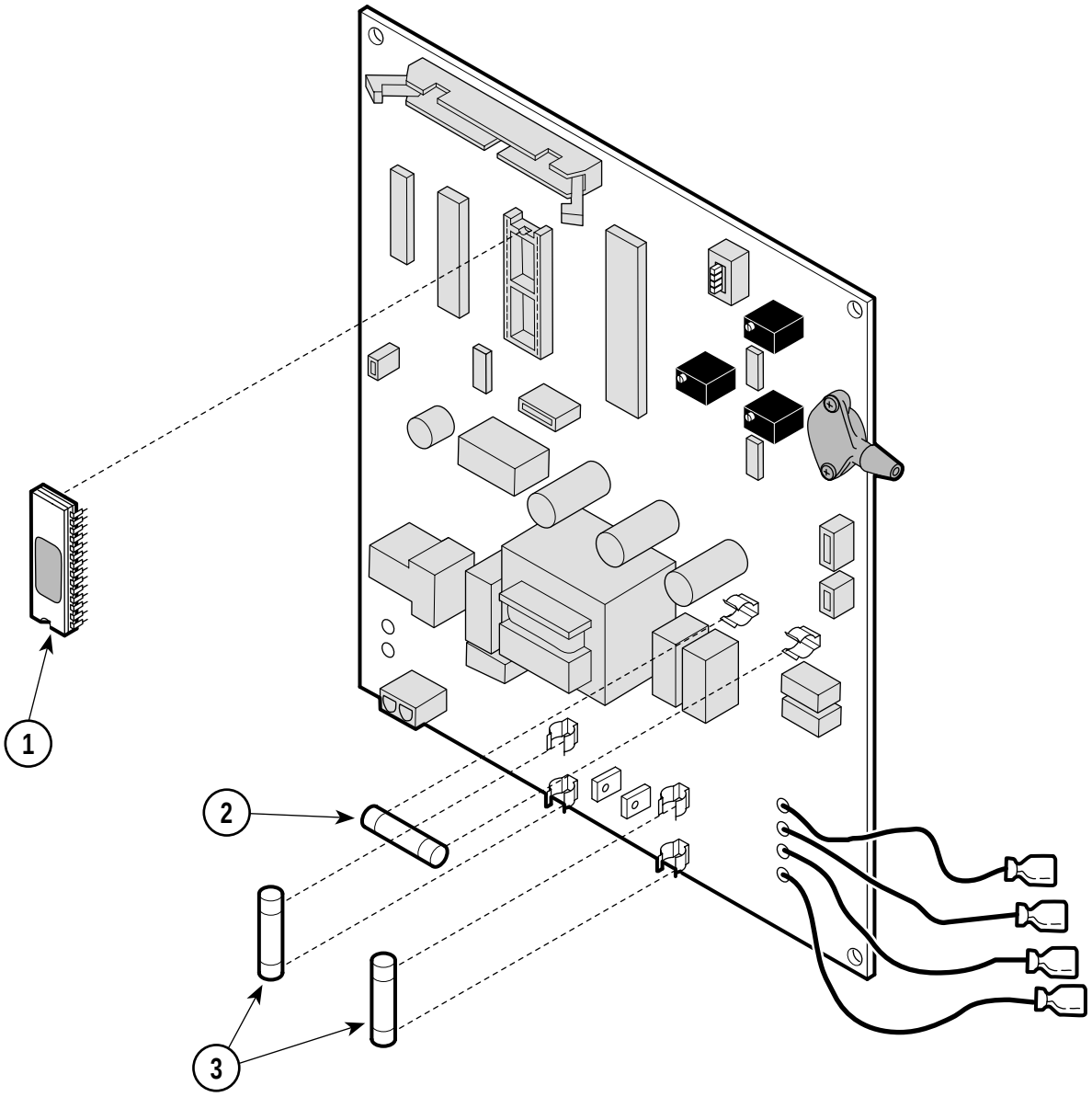
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# M9D Control PC Board






MA443000

| Item | Part No. | Description | Qty. | Item | Part No. | Description | Qty. |
|---|---|---|---|---|---|---|---|
| | 002-0518-00 | Control PC Board {115 V} (Includes Item 1thru 3) | 1 | 3 | • 015-0346-07 | • Line Fuse (15 amp/250 V) {Used on 115 V Units} | 2 |
| 1 | • | • M9 EPROM | Ref | | | | |
| 2 | • 015-0346-08 | • Printer Fuse (3 amp/250 V) | 1 | | | | |

**Always Specify Model & Serial Number**

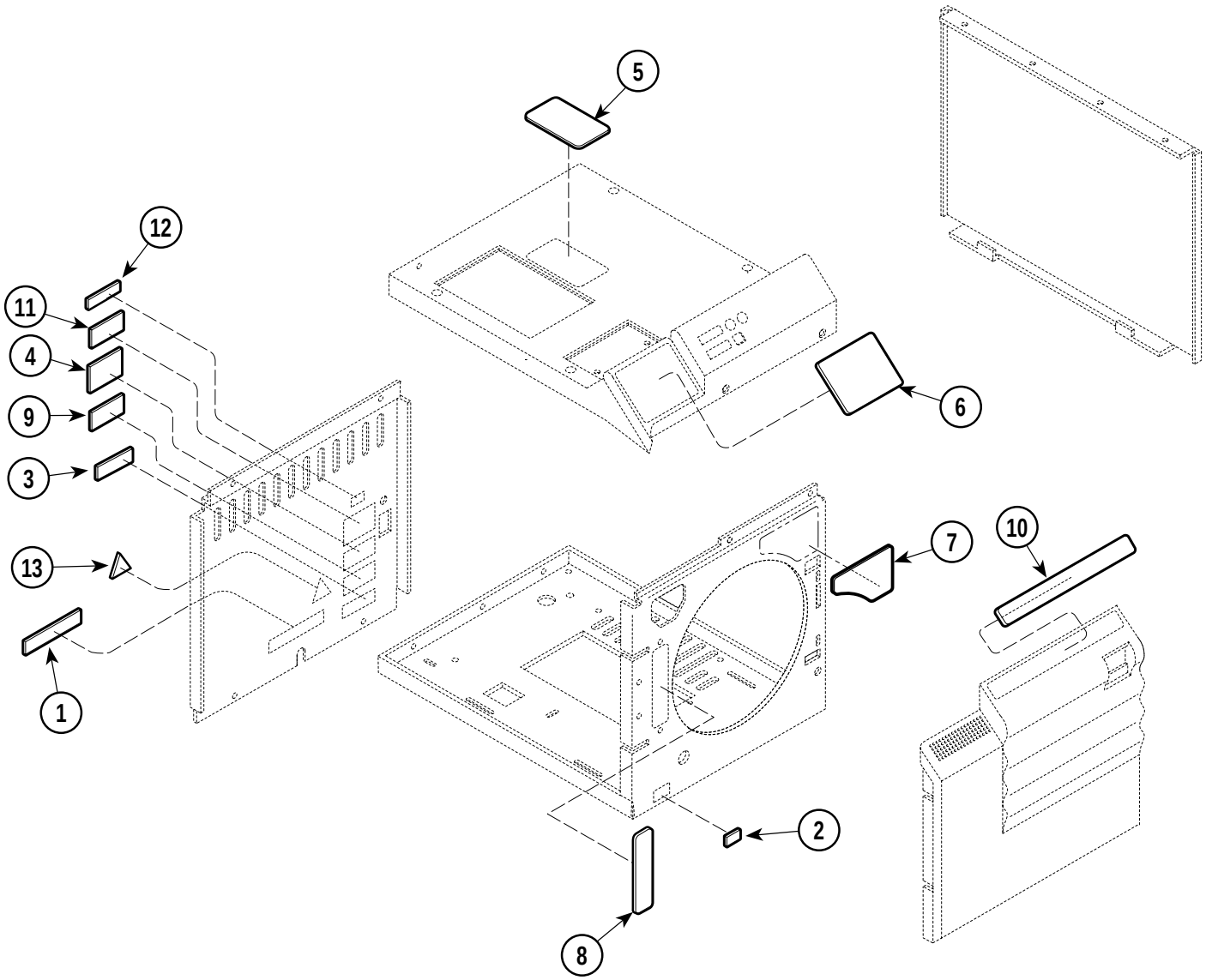
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# M9 Labels and Decals






MA202513

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 061-0203-00 | Label - Electrical Shock (English) | 1 |
| | 061-0516-00 | Label -Electrical Shock (French) | 1 |
| | 061-0600-00 | Label -Electrical Shock (Portuguese) | 1 |
| 2 | | Label - Serial Number (Front) | 1 |
| 3 | 061-0477-00 | Label - Patent | 1 |
| 4 | | Label - Serial Number (Rear) | 1 |
| 5 | 061-0309-00 | Label - Warning, P.R. Valve (English) | 1 |
| | 061-0514-00 | Label - Warning, P.R. Valve (French) | 1 |
| | 061-0597-00 | Label - Warning, P.R. Valve (Portuguese) | 1 |
| | 061-0704-18 | Label - Warning, P.R. Valve (Polish) | 1 |
| 6 | 061-0381-00 | Label - Warning (English) | 1 |
| | 061-0512-00 | Label - Warning (French) | 1 |
| | 061-0595-00 | Label - Warning (Portuguese) | 1 |
| | 061-0381-18 | Label - Warning (Polish) | 1 |

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 7 | 061-0726-00 | Label - Hot Surface | 1 |
| 8 | 061-0311-00 | Label - Water Level | 1 |
| 9 | 061-0624-00 | UL / CUL 507U Label (Used on select units only) | 1 |
| 10 | 061-0441-00 | Label - Operation (English) | 1 |
| | 061-0441-18 | Label - Operation (Polish) | 1 |
| | 061-0513-00 | Label - Operation (French) | 1 |
| | 061-0596-00 | Label - Operation (Portuguese) | 1 |
| 11 | 061-0782-00 | CE Representative Label (Used on select units only) | 1 |
| 12 | 061-0733-00 | CE Label (Used on select units only) | 1 |
| 13 | 061-0654-01 | Label - Caution (Select units only) | 1 |
| 14 | 004-0068-00 | Laminated Instruction Sheet (Not Shown) | 1 |
| 15 | 004-0254-00 | Quick Reference Sheet (Not Shown) | 1 |

**Always Specify Model & Serial Number**

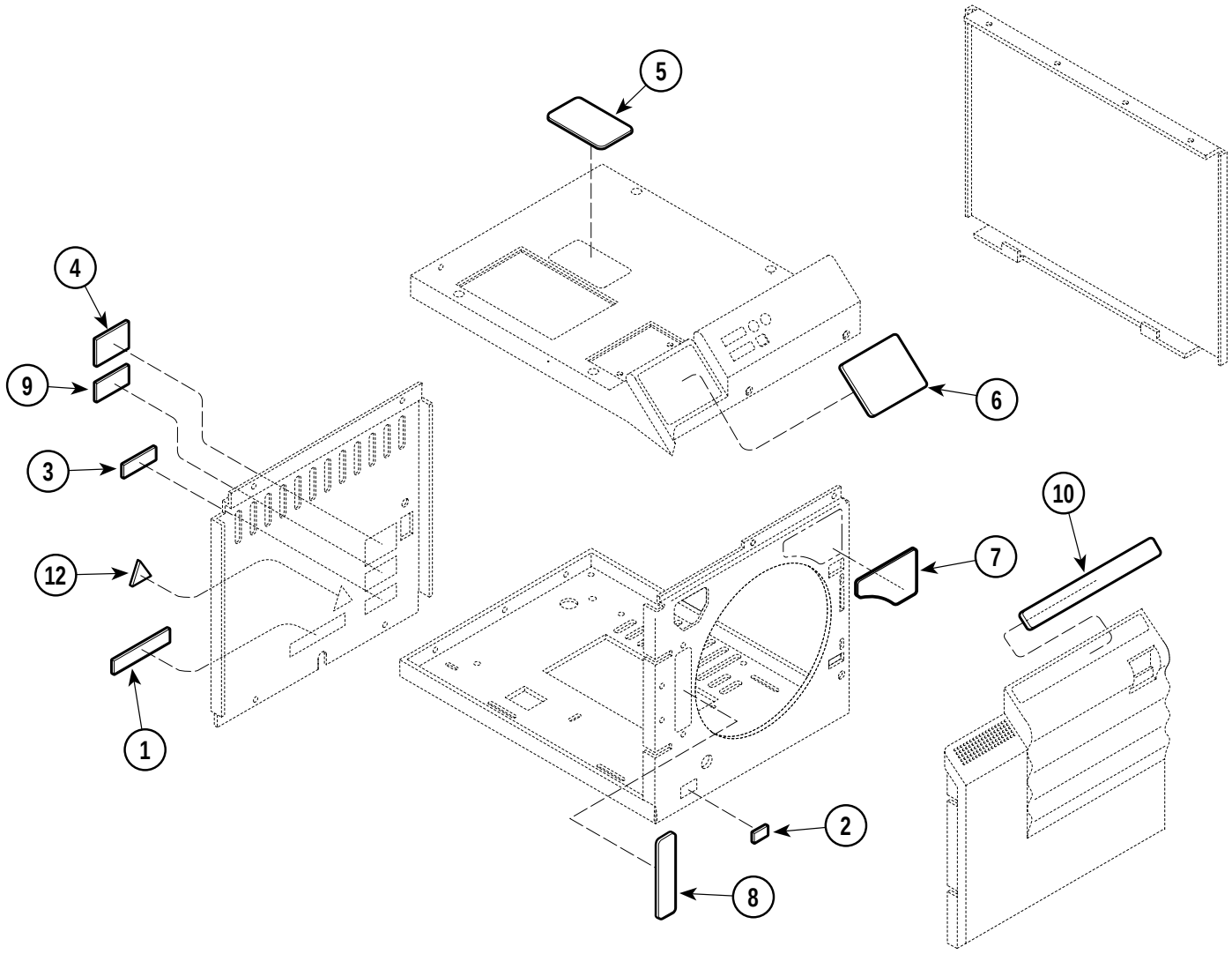
© Midmark Corporation 2002 SF-1827 Rev. 3/03



Printed in U.S.A.

# M9D Labels and Decals






MA443101

| Item | Part No. | Description | Qty. | Item | Part No. | Description | Qty. |
|---|---|---|---|---|---|---|---|
| 1 | 061-0203-00 | Label - Electrical Shock | 1 | 9 | 061-0624-00 | UL / CUL 507U Label | 1 |
| 2 | | Label - Patent (Front) | 1 | 10 | 061-0533-00 | Label - Operation | 1 |
| 3 | 061-0477-00 | Label - Patent (Rear) | 1 | 11 | 061-0534-00 | Sterilizer Label Set (Not Shown Includes Items 5, 6 & 10) | 1 |
| 4 | | Label - Serial Number | 1 | | | | |
| 5 | 061-0309-01 | Label - Warning, P.R. Valve | 1 | 12 | 061-0654-00 | Label - Caution | 1 |
| 6 | 061-0532-00 | Label - Warning | 1 | 13 | 004-0068-00 | Laminated Instruction Sheet (Not Shown) | 1 |
| 7 | 061-0591-00 | Label - Hot Surface | 1 | 14 | 004-0254-00 | Quick Reference Sheet (Not Shown) | 1 |
| 8 | 061-0311-00 | Label - Water Level | 1 | | | | |

**Always Specify Model & Serial Number**

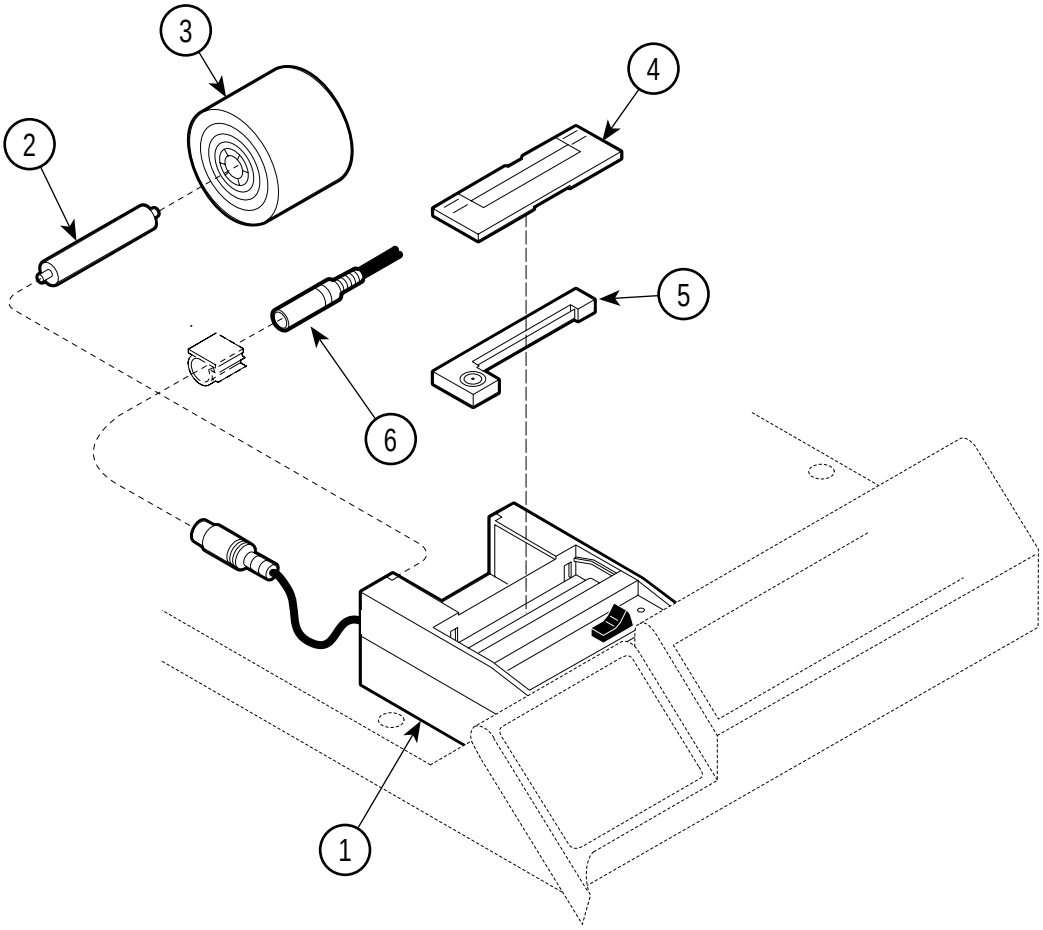
© Midmark Corporation 2002 SF-1827 Rev. 3/03



Printed in U.S.A.

# Printer Components






MA203302

| Item | Part No. | Description | Qty. | Item | Part No. | Description | Qty. |
|---|---|---|---|---|---|---|---|
| 1 | 9A155001 | Accessory Printer (Incl. Items 2 thru 6) . | 1 | 5 | • 053-0505-00 | • Printer Cartridge ..... | 1 |
| 2 | • 053-0506-00 | • Arbor ..... | 1 | 6 | • 015-0978-00 | • Printer Wiring Harness ..... | 1 |
| 3 | • 060-0008-00 | • Paper Roll ..... | 1 | 7 | 002-0371-00 | Cartridge/Paper Kit (Includes Two Rolls of Paper and One Cartridge ..... | 1 |
| 4 | • 053-0507-00 | • Cover ..... | 1 | | | | |

**Always Specify Model & Serial Number**

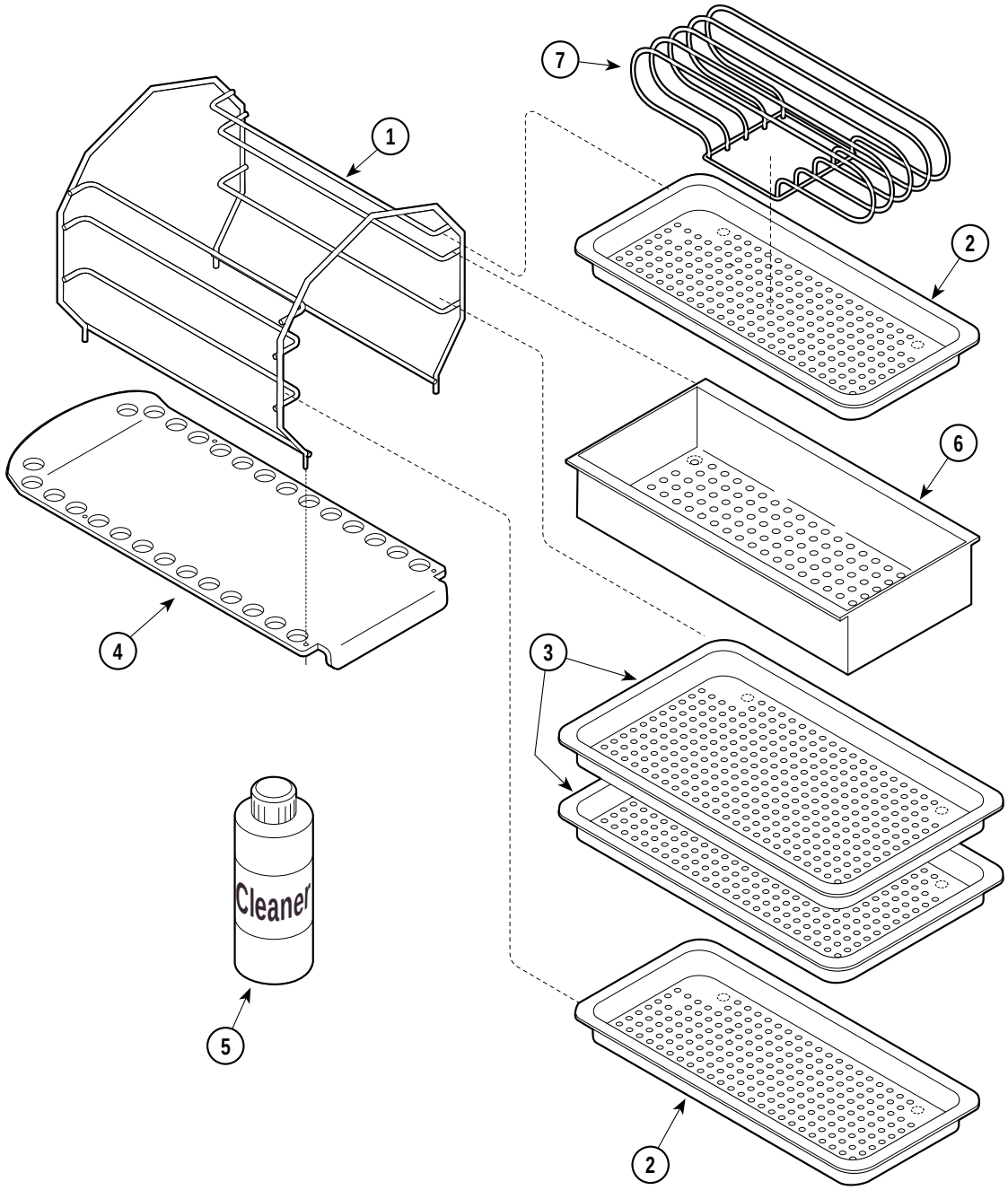
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Racks, Trays, and Cleaner






MA203201

## Used on Units with Serial Numbers:

**CZ1000 thru CZ4334** **DA1000 thru DA1004** **DB1000 thru DB1237** **DX1000 thru DX2555**
**DY1000 thru DY1176** **FD1000 thru FD1399** **FF1000 thru FF1034** **FG1000 thru FG1112**
**FK1000 thru FK1699** **FL1000 thru FL1474** **OM1000 thru OM14524**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 030-0710-01 | Wire Tray Rack | 1 |
| 2 | 002-0253-00 | 5" Tray | 2 |
| 3 | 002-0374-00 | 7" Tray | 2 |
| 4 | 050-1773-00 | Tray Plate | 1 |
| 5 | 002-0269-00 | Sterilizer Cleaner-Ritter (Single Bottle with M.S.D.Sheet) | AR |
| | 002-0269-01 | Sterilizer Cleaner-Ritter (12 Bottle Case with M.S.D.Sheet) | AR |
| | 002-0396-00 | Sterilizer Cleaner-Midmark (Single Bottle with M.S.D.Sheet) | AR |
| | 002-0396-01 | Sterilizer Cleaner-Midmark (12 Bottle Case with M.S.D.Sheet) | AR |
| 6 | 9A224001 | Sterilizer Deep Tray | 1 |
| 7 | 9A226001 | Sterilizer Pouch Rack | 1 |

**Always Specify Model & Serial Number**

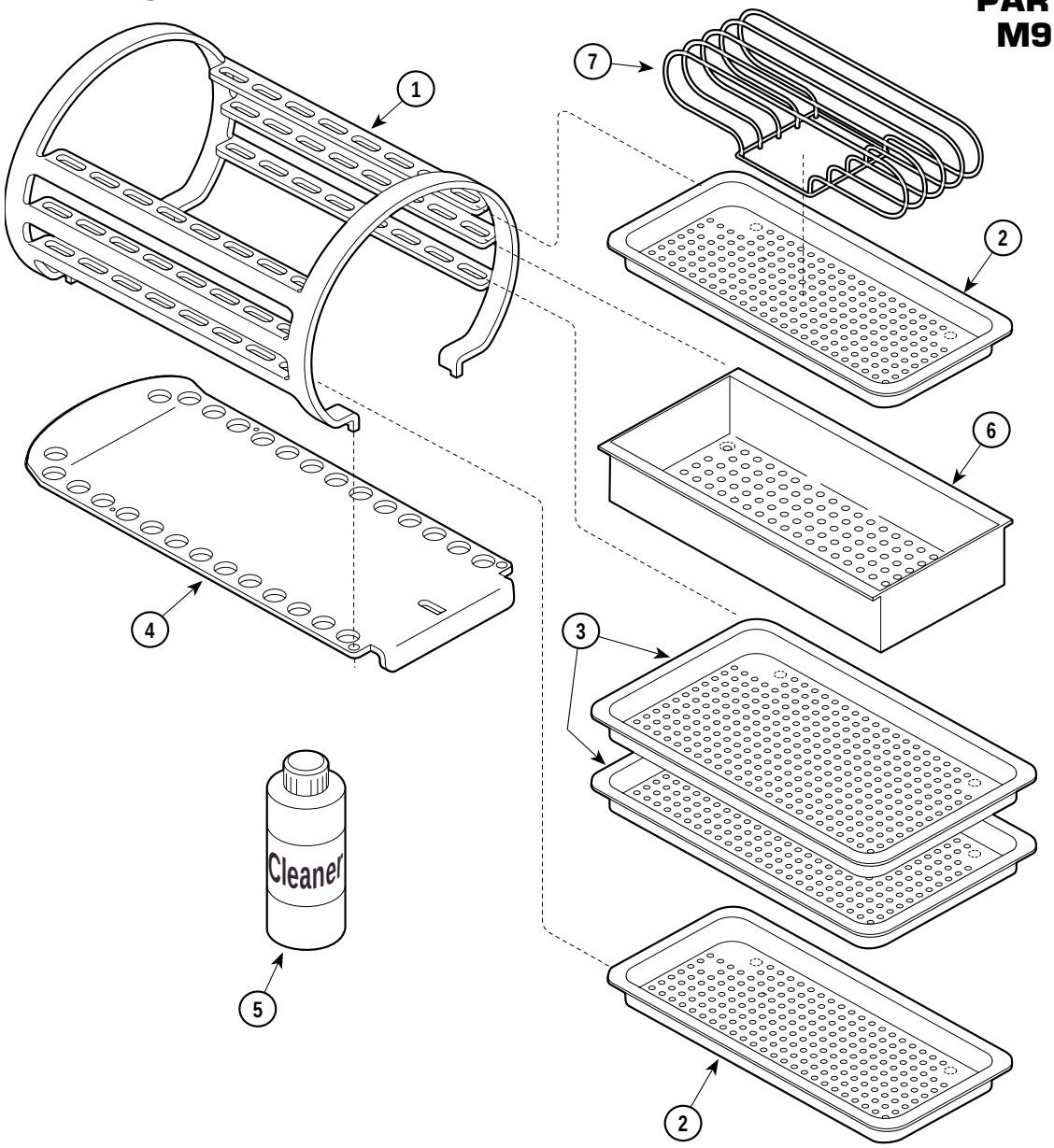
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Racks, Trays, and Cleaner






MA376300

**Used on units with Serial Numbers:**
**CZ4335, DA1005, DB1238, DX2556, DY1177, FD1400, FF1035, FG1113, FK1700, FL1475, LA1000, OM14525 - thru Present**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 050-3691-00 | Wire Tray Rack | 1 |
| 2 | 002-0253-00 | 5" Tray | 2 |
| 3 | 002-0374-00 | 7" Tray | 2 |
| 4 | 050-3750-00 | Tray Plate | 1 |
| 5 | 002-0269-00 | Sterilizer Cleaner-Ritter (Single Bottle with M.S.D.Sheet) | AR |
| | 002-0269-01 | Sterilizer Cleaner-Ritter (12 Bottle Case with M.S.D.Sheet) | AR |
| | 002-0396-00 | Sterilizer Cleaner-Midmark (Single Bottle with M.S.D.Sheet) | AR |
| | 002-0396-01 | Sterilizer Cleaner-Midmark ([12] 16 oz. Bottle Case with M.S.D.Sheet) | AR |
| | 002-0396-02 | Sterilizer Cleaner-Midmark ([32] 16 oz. Bottle Case with M.S.D.Sheet) | AR |
| | 002-0396-03 | Sterilizer Cleaner-EMS ([32] 16 oz. Bottle Case with M.S.D.Sheet) | AR |
| 6 | 9A224001 | Sterilizer Deep Tray | 1 |
| 7 | 9A226001 | Sterilizer Pouch Rack | 1 |

**Always Specify Model & Serial Number**

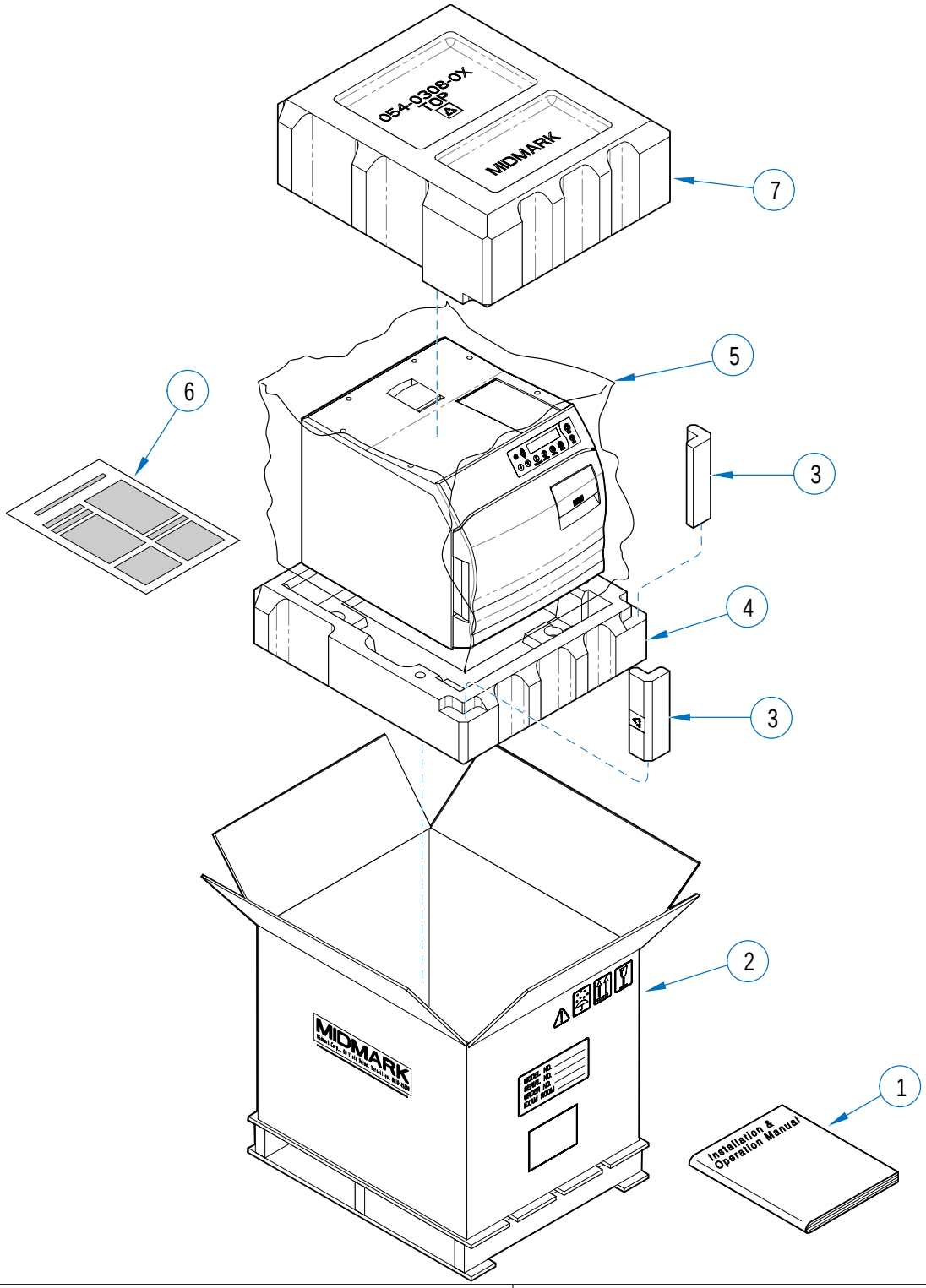
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Packaging






MA202406

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 003-1031-00 | M9 Installation & Operation Manual (English) | 1 |
| | 003-1033-00 | M9D Installation & Operation Manual (English) | 1 |
| | 003-0920-02 | M9 Installation & Operation Manual (French) | 1 |
| | 003-0920-18 | M9 Installation & Operation Manual (Polish) | 1 |
| 2 | 066-0721-00 | Slotted Carton | 1 |
| 3 | 054-0309-00 | Corner Pad | 2 |
| 4 | 054-0308-00 | Bottom Pad | 1 |
| 5 | 053-0061-01 | Poly Bag | 1 |
| 6 | 077-0033-00 | Speed Clean Material Data Sheet | 1 |
| 7 | 054-0310-00 | Top Pad | 1 |
| 8 | 002-0532-00 | Ritter M9 Packaging Kit (Includes Items 2, 3, 4, 5 & 7) | 1 |
| | 002-0532-01 | Midmark M9 Packaging Kit (Includes Items 2, 3, 4, 5 & 7) | 1 |

**Always Specify Model & Serial Number**

© Midmark Corporation 2002 SF-1827 Rev. 8/02



Printed in U.S.A.

SECTION VI
PARTS LIST

# Attention!

The Parts Lists in this manual are separated as shown below.
Verify model number, then refer to appropriate pages.

**M9 / M9D** ..... Pages 6-2 thru 6-16

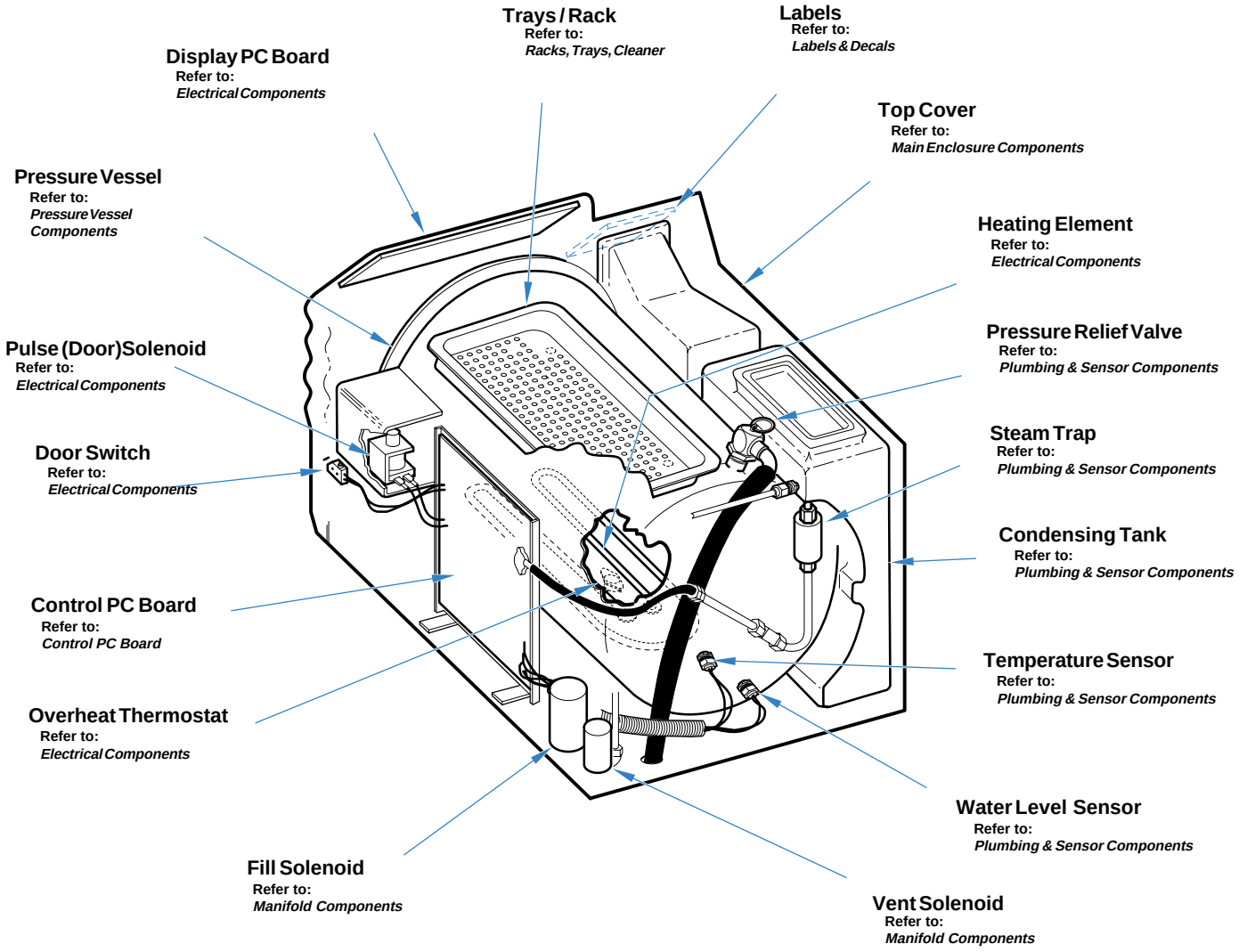
**M11 / M11D** ..... Pages 6-17 thru 6-31

© Midmark Corporation 2002 SF-1827

Printed in U.S.A.

# M11 Component / Page Cross-Reference






MA

| Item | Model No. | Description | Page |
|---|---|---|---|
| | M11-001 | Ritter M11 Ultraclave (120VAC) *[serial number prefix "ES"]* | 6-17 |
| | M11-002 | Midmark M11 Ultraclave (120VAC) *[serial number prefix "ET"]* | 6-17 |
| | M11-003 | Ritter M11 Ultraclave (230 VAC) *[serial number prefix "FP"]* | 6-17 |
| | M11-004 | Midmark M11 Ultraclave (230 VAC) *[serial number prefix "FR"]* | 6-17 |
| | M11-005 | EMS M11 Ultraclave (230 VAC) *[serial number prefix "GB"]* | 6-17 |
| | M11-006 | M11 Ultraclave - UK (230VAC, CE) *[serial number prefix "NP"]* | 6-17 |

**Always Specify Model & Serial Number**

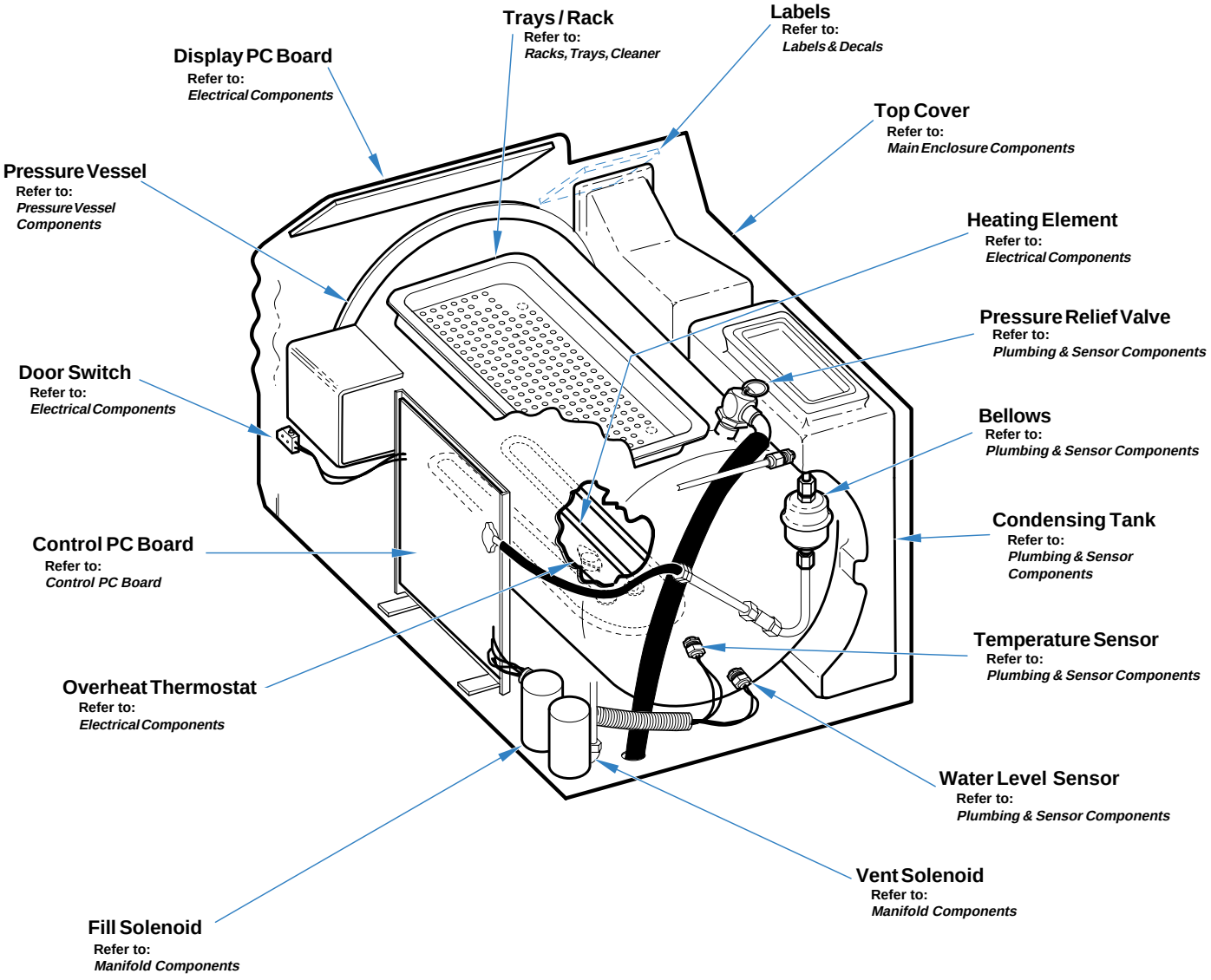
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# M11D Component / Page Cross-Reference






MA600800i

| Item | Model No. | Description | Page | Item | Model No. | Description | Page |
|---|---|---|---|---|---|---|---|
| | M11D-001 | Ritter M11D Ultraclave (120 VAC *[serial number prefix "GC"]* | 6-18 | | M11D-002 | Midmark M11D Ultraclave (120 VAC) *[serial number prefix "GD"]* | 6-18 |

**Always Specify Model & Serial Number**

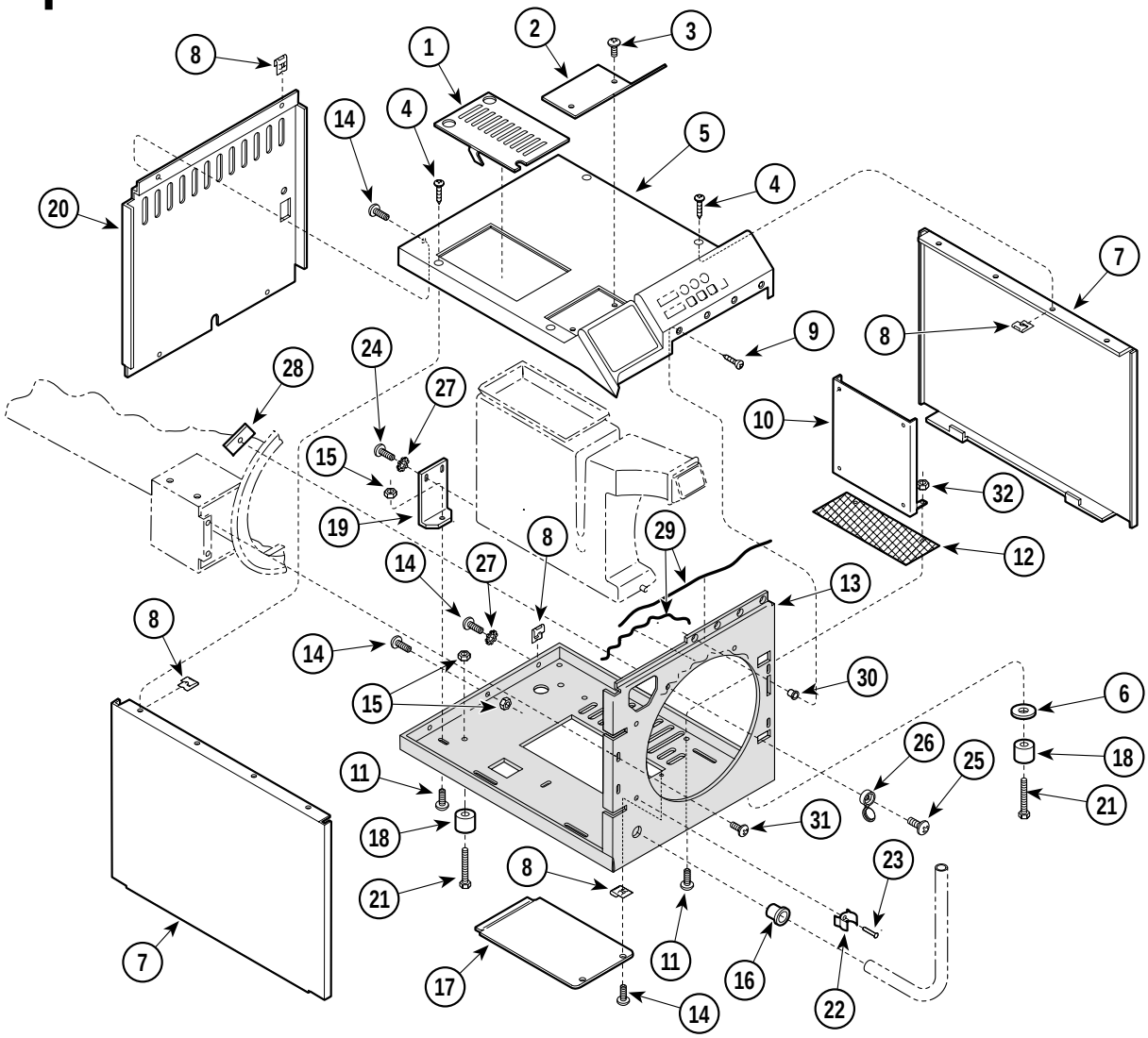
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Main Enclosure Components






MA225405

**Used on units with Serial Numbers:**
**ES1347 thru ES3020 ET1095 thru ET3317**
**GC1000 thru GC1018 GD1000 thru GD1015**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 030-1117-00 | Top Inspection Cover | 1 |
| 2 | 050-2638-00 | Cover Plate - Printer | 1 |
| 3 | 040-0008-87 | Screw | 2 |
| 4 | 040-0010-88 | Screw | 4 |
| 5 | | Top Cover Assembly Kit (includes all Decals and Display Gasket) | |
| | 002-0503-00 | M11 | 1 |
| | 002-0503-01 | M11D | 1 |
| 6 | 045-0001-00 | Washer | AR |
| 7 | 050-2589-00 | Side Panel | 2 |
| 8 | H352623 | Tinnerman Clip | 11 |
| 9 | 040-0010-112 | Screw | 4 |
| 10 | 050-3996-00 | Control PCB Bracket | 1 |
| 11 | 040-0010-75 | Screw | 3 |
| 12 | 016-0428-04 | Screen | 1 |
| 13 | 050-2588-00 | Base | 1 |
| 14 | 040-0010-125 | Screw | 6 |
| 15 | 041-0010-02 | Nut | 6 |
| 16 | 053-0068-11 | Snap Bushing | 1 |
| 17 | 050-4326-01 | Base Inspection Cover | 1 |
| 18 | 016-0523-01 | Leveler Foot | 4 |
| 19 | 050-1778-00 | Condensing Tank Bracket | 1 |
| 20 | 050-2587-00 | Back Panel | 1 |
| 21 | 040-0010-44 | Screw | 4 |
| 22 | 053-0388-01 | Hose Clip | 2 |
| 23 | 042-0010-21 | Pop Rivet | 2 |
| 24 | 040-0010-74 | Screw | 2 |
| 25 | 040-0010-124 | Screw | 2 |
| 26 | 053-0723-00 | Screw Cover | 2 |
| 27 | 045-0001-31 | Lockwasher | 3 |
| 28 | 050-4750-00 | Flange Clamp | 2 |
| 29 | 042-0021-00 | Adhesive | AR |
| 30 | 042-0045-01 | Nutsert | 4 |
| 31 | 040-0010-95 | Screw | 4 |
| 32 | 041-0010-04 | Nut - w/Starwasher | 2 |

**Always Specify Model & Serial Number**

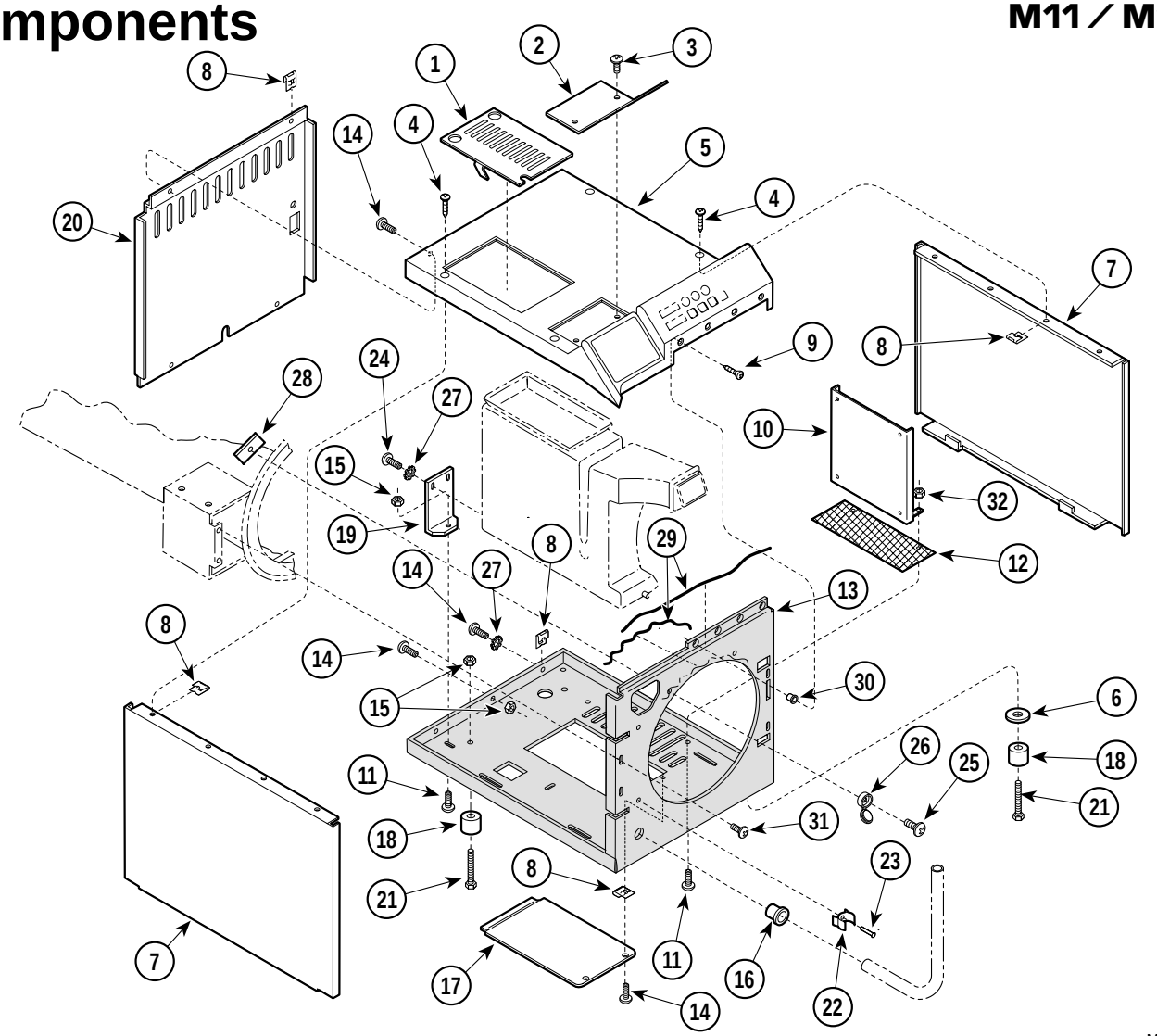
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Main Enclosure Components





MA225405

**Used on units with Serial Numbers:**

**ES3021 thru ES3376 ET3318 thru ET3893 FP1000 thru FP1063**
**FR1000 thru FR1100 GB1000 thru GB1044 GC1019 thru GC1020**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 030-1117-00 | Top Inspection Cover | 1 |
| 2 | 050-2638-00 | Cover Plate - Printer | 1 |
| 3 | 040-0008-87 | Screw | 2 |
| 4 | 040-0010-88 | Screw | 4 |
| 5 | | Top Cover Assembly Kit (Incls. all Decals and Display Overlay) | |
| | 002-0503-00 | M11 | 1 |
| | 002-0503-01 | M11D | 1 |
| | 002-0503-02 | M11 (w/ metric display overlay) | 1 |
| | 002-0503-03 | M11 (w/ French display overlay) | 1 |
| 6 | 045-0001-00 | Washer | AR |
| 7 | 050-2589-00 | Side Panel | 2 |
| 8 | H352623 | Tinnerman Clip | 11 |
| 9 | 040-0010-112 | Screw | 4 |
| 10 | 050-3996-00 | Control PCB Bracket | 1 |
| 11 | 040-0010-75 | Screw | 3 |
| 12 | 016-0428-04 | Screen | 1 |
| 13 | 050-2588-00 | Base | 1 |
| 14 | 040-0010-125 | Screw | 6 |
| 15 | 041-0010-02 | Nut | 6 |
| 16 | 053-0068-11 | Snap Bushing | 1 |
| 17 | 050-4326-01 | Base Inspection Cover | 1 |
| 18 | 016-0523-01 | Leveler Foot | 4 |
| 19 | 050-1778-00 | Condensing Tank Bracket | 1 |
| 20 | 050-2587-00 | Back Panel (230 V. units only) | 1 |
| | 050-2587-01 | Back Panel (120 V. units only) | 1 |
| 21 | 040-0010-44 | Screw | 4 |
| 22 | 053-0388-01 | Hose Clip | 2 |
| 23 | 042-0010-21 | Pop Rivet | 2 |
| 24 | 040-0010-74 | Screw | 2 |
| 25 | 040-0010-124 | Screw | 2 |
| 26 | 053-0723-00 | Screw Cover | 2 |
| 27 | 045-0001-31 | Lockwasher | 3 |
| 28 | 050-4750-00 | Flange Clamp | 2 |
| 29 | 042-0021-00 | Adhesive | AR |
| 30 | 042-0045-01 | Nutsert | 4 |
| 31 | 040-0010-95 | Screw | 4 |
| 32 | 041-0010-04 | Nut - w/Starwasher | 2 |

**Always Specify Model & Serial Number**

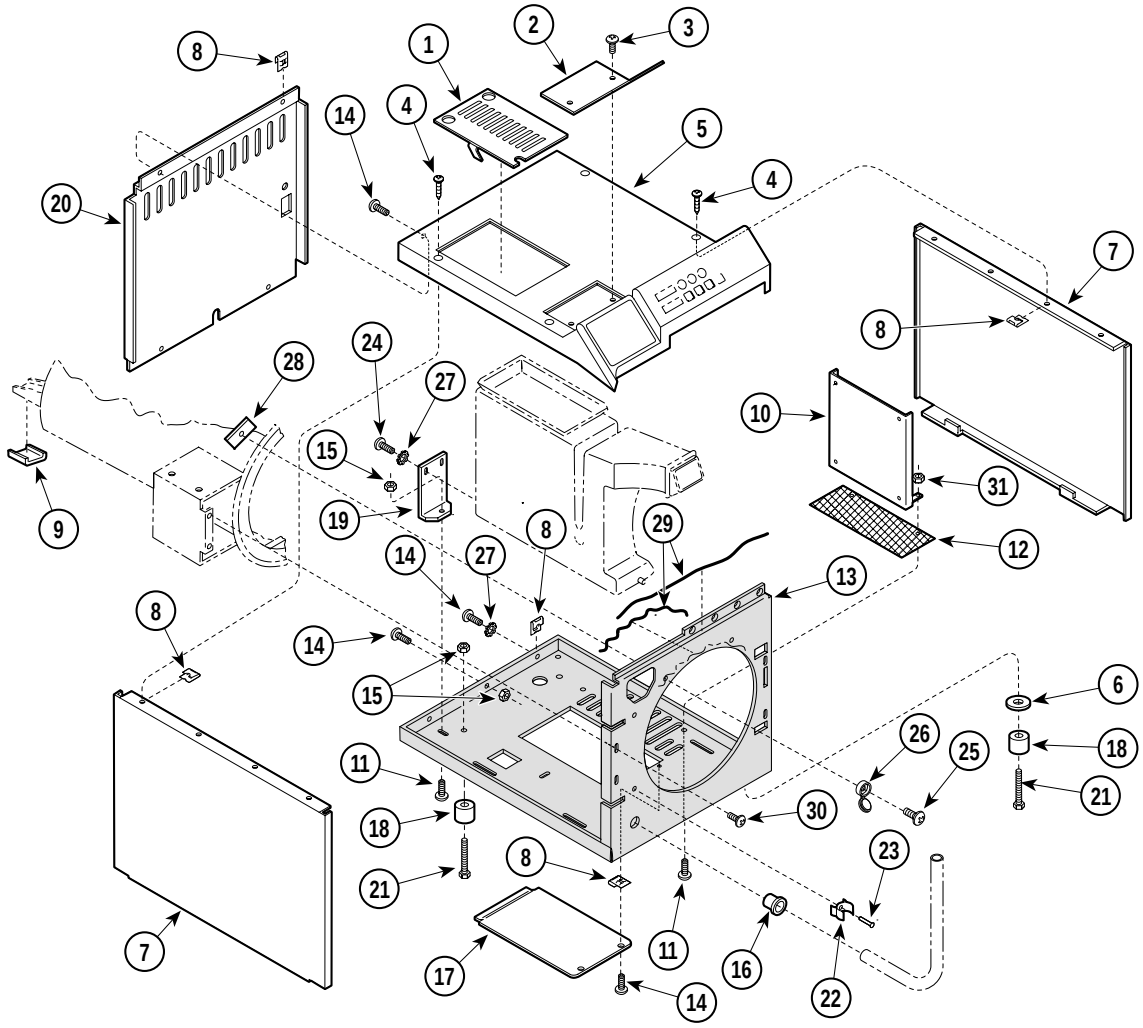
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Main Enclosure Components





MA225406

**Used on units with Serial Numbers:**

**ES3377 thru ES4879 ET3319 thru ET6315 FP1064 thru FP6315 FR1101 thru FR1203**
**GB1043 thru GB1109 GC1020 thru GC1074 GD1016 thru GD1064**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 030-1117-00 | Top Inspection Cover | 1 |
| 2 | 050-2638-00 | Cover Plate - Printer | 1 |
| 3 | 040-0008-87 | Screw | 2 |
| 4 | 040-0010-88 | Screw | 4 |
| 5 | | Top Cover Assembly Kit (incls. all decals and display overlay) | |
| | 002-0503-00 | M11 | 1 |
| | 002-0503-01 | M11D | 1 |
| | 002-0503-02 | M11 (w/ metric display overlay) | 1 |
| | 002-0503-03 | M11 (w/ French display overlay) | 1 |
| 6 | 053-0923-00 | Washer (Used on Early Units Only) | 2 |
| 7 | 050-2589-00 | Side Panel | 2 |
| 8 | H352623 | Tinnerman Clip | 11 |
| 9 | 050-3987-00 | Spacer | 1 |
| 10 | 050-3996-00 | Control PCB Bracket | 1 |
| 11 | 040-0010-75 | Screw | 3 |
| 12 | 016-0428-04 | Screen | 1 |
| 13 | 050-2588-00 | Base | 1 |
| 14 | 040-0010-125 | Screw | 6 |
| 15 | 041-0010-02 | Nut | 6 |
| 16 | 053-0068-11 | Snap Bushing | 1 |
| 17 | 050-4326-01 | Base Inspection Cover | 1 |
| 18 | 016-0523-01 | Leveler Foot (Back) | 2 |
| 19 | 050-1778-00 | Condensing Tank Bracket | 1 |
| 20 | 050-2587-01 | Back Panel (120 V. units only) | 1 |
| | 050-2587-00 | Back Panel (230 V. units only) | 1 |
| 21 | 040-0010-44 | Screw | 4 |
| 22 | 053-0388-01 | Hose Clip | 2 |
| 23 | 042-0010-21 | Pop Rivet | 2 |
| 24 | 040-0010-74 | Screw | 2 |
| 25 | 040-0010-124 | Screw | 2 |
| 26 | 053-0723-00 | Screw Cover | 2 |
| 27 | 045-0001-31 | Lockwasher | 3 |
| 28 | 050-4750-00 | Flange Clamp | 2 |
| 29 | 042-0021-00 | Adhesive | AR |
| 30 | 040-0010-95 | Screw | 4 |
| 31 | 041-0010-04 | Nut - w/Starwasher | 2 |

**Always Specify Model & Serial Number**

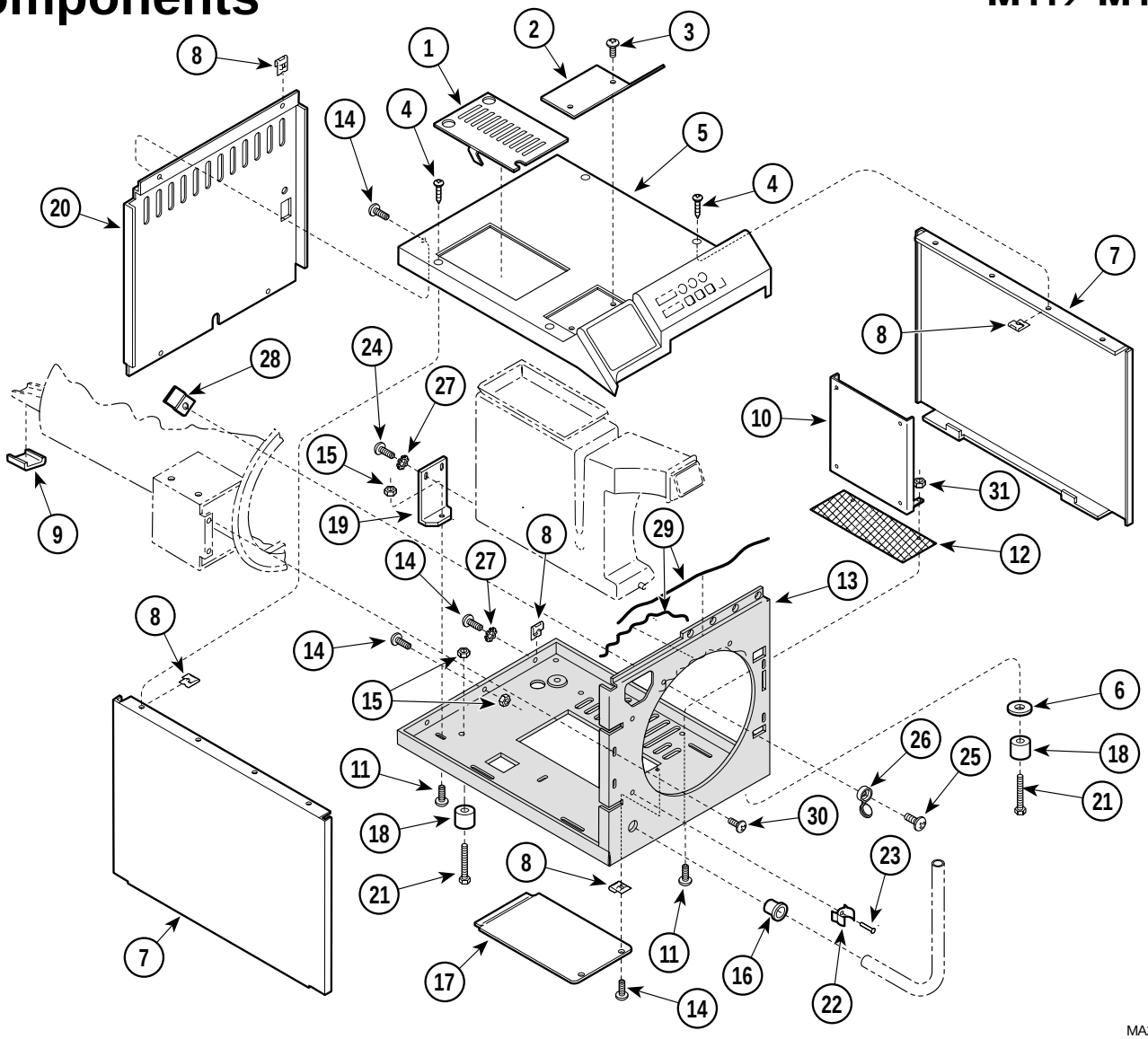
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Main Enclosure Components





MA225408

**Used on units with Serial Numbers:**
**ES4880, ET6316, FP6316, FR1204, GB1110, GC1075, GD1065, NP1000 - thru Present**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 030-1117-00 | Top Inspection Cover | 1 |
| 2 | 050-2638-00 | Cover Plate - Printer | 1 |
| 3 | 040-0008-50 | Screw | 2 |
| 4 | 040-0010-88 | Screw | 4 |
| 5 | | Top Cover Assembly Kit (incls. all decals and display overlay) | |
| | 002-0503-00 | M11 | 1 |
| | 002-0503-01 | M11D | 1 |
| | 002-0503-02 | M11 (w/ metric display overlay) | 1 |
| | 002-0503-03 | M11 (w/ French display overlay) | 1 |
| 6 | 053-0923-00 | Washer (Used on Early Units Only) | 2 |
| 7 | 050-2589-00 | Side Panel | 2 |
| 8 | H352623 | Tinnerman Clip | 11 |
| 9 | 050-3987-00 | Spacer | 1 |
| 10 | 050-3996-00 | Control PCB Bracket | 1 |
| 11 | 040-0010-75 | Screw | 3 |
| 12 | 016-0428-04 | Screen | 1 |
| 13 | 050-4722-00 | Base | 1 |
| 14 | 040-0010-125 | Screw | 6 |
| 15 | 041-0010-02 | Nut | 5 |
| 16 | 053-0068-11 | Snap Bushing | 1 |
| 17 | 050-4326-00 | Base Inspection Cover | 1 |
| 18 | 016-0523-01 | Leveler Foot (Back) | 2 |
| 19 | 050-1778-00 | Condensing Tank Bracket | 1 |
| 20 | 050-3860-00 | Back Panel (230 V. units only) | 1 |
| | 050-3860-01 | Back Panel (120 V. units only) | 1 |
| 21 | 040-0010-44 | Screw | 4 |
| 22 | 053-0388-01 | Hose Clip | 2 |
| 23 | 042-0010-21 | Pop Rivet | 2 |
| 24 | 040-0010-74 | Screw | 2 |
| 25 | 040-0010-124 | Screw | 2 |
| 26 | 053-0723-00 | Screw Cover | 2 |
| 27 | 045-0001-31 | Lockwasher | 3 |
| 28 | 050-4750-00 | Flange Clamp | 2 |
| 29 | 042-0021-00 | Adhesive | AR |
| 30 | 040-0010-95 | Screw | 5 |
| 31 | 041-0010-04 | Nut - w/Starwasher | 2 |

**Always Specify Model & Serial Number**

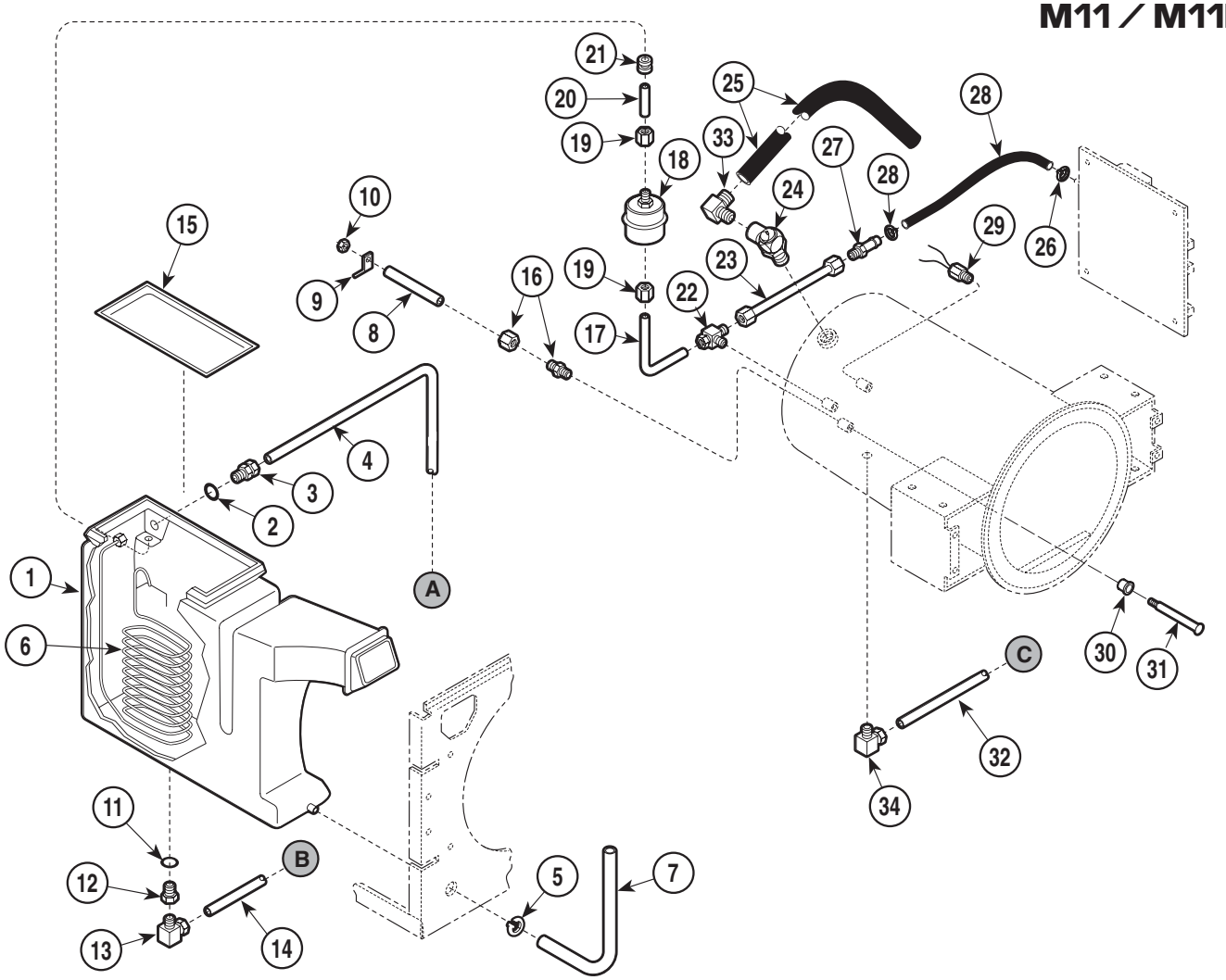
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Plumbing & Sensor Components






MA201915

**Used on units with Serial Numbers:**

**ES1000 thru ES4300 ET1000 thru ET5399 FP1000 thru FP1072 FR1000 thru FR1177**
**GB1000 thru GB1094 GC1000 thru GC1035 GD1000 thru GD1049**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 053-0580-00 | Condensing Tank | 1 |
| 2 | H98137 | Gasket | 1 |
| 3 | 014-0216-00 | Bulkhead Union | 1 |
| | 014-0392-00 | Compression Nut Only | AR |
| 4 | 014-0251-00 | Tube **(M11)** | 1 |
| | 014-0279-00 | Tube **(M11D)** | 1 |
| 5 | 016-0748-01 | Nylon Hose Clamp | 1 |
| 6 | 052-0173-00 | Condensing Coil | 1 |
| 7 | 053-0391-01 | Hose | 1 |
| 8 | 002-0358-00 | Level Sensor Tube (Includes items 9,10,16,30,31) | 1 |
| 9 | 015-0595-00 | Terminal | 1 |
| 10 | 041-0006-02 | Locknut | 1 |
| 11 | 053-0393-00 | O-ring | 1 |
| 12 | 014-0209-00 | Bulkhead Couple | 1 |
| 13 | 014-0184-01 | Male Elbow | 1 |
| 14 | 014-0255-00 | Tube | 1 |
| 15 | 053-0580-01 | Condensing Tank Lid | 1 |
| 16 | 014-0212-00 | Connector | 1 |
| 17 | 014-0252-00 | Tube | 1 |
| 18 | 002-0375-00 | Bellows Assembly | 1 |
| 19 | 014-0392-00 | Compression Nut (Refer to Kit [*]) | 2 |
| 20 | 014-0208-00 | Tube | 1 |
| 21 | 053-0394-00 | Grommet | 1 |
| 22 | 014-0202-00 | Male Branch Tee | 1 |
| 23 | 014-0207-00 | PCB Pres. Sensor Tube (Refer to Kit [*]) | 1 |
| 24 | 002-0359-00 | Pressure Relief Valve - 35 PSI (Apply Teflon Tape) (Includes Elbow, Item 35) | 1 |
| 25 | 053-0613-02 | Tube - Pressure Relief | 1 |
| 26 | 015-0013-05 | Cable Tie (High Temp) | 2 |
| 27 | 014-0217-00 | Compression Connector (Refer to Kit [*]) | 1 |
| 28 | 053-0404-02 | Tube-PCB Connector (Refer to Kit [*]) | 1 |
| 29 | 002-0357-00 | Temperature Probe Assembly (Apply Teflon Tape) | 1 |
| 30 | 053-0407-00 | Spacer | 1 |
| 31 | 030-0858-00 | Level Sensor Assembly | 1 |
| 32 | 014-0250-00 | Tube | 1 |
| 33 | 014-0258-00 | Male 90° Elbow | 1 |
| 34 | 014-0184-01 | Male Elbow | 1 |
| [*] | 002-0593-00 | Pressure Sensor Tube Kit (Includes #'s 19, 23, 26, 27, & 28) | |

**Always Specify Model & Serial Number**

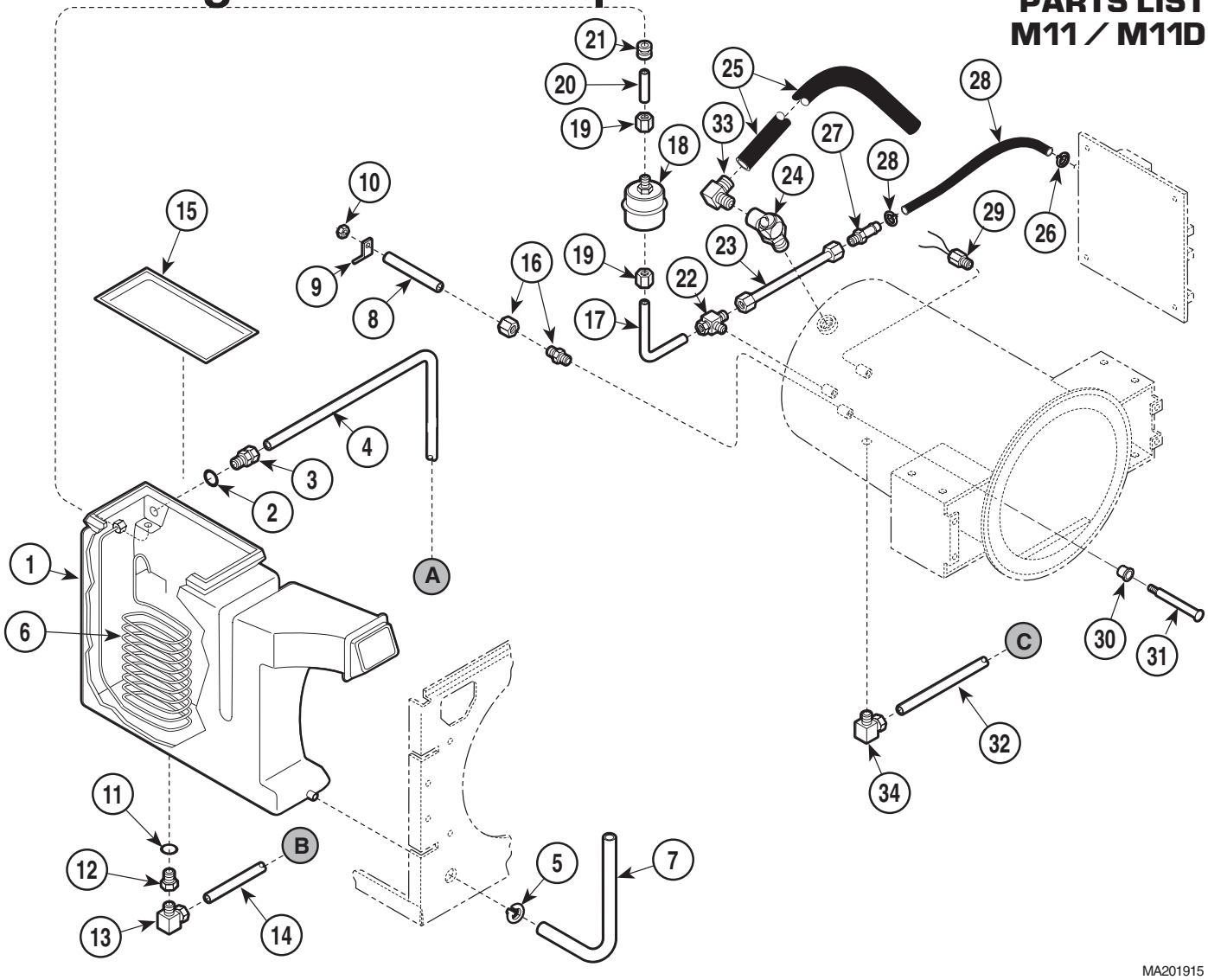
© Midmark Corporation 2002 SF-1827 Rev. 8/06



Printed in U.S.A.

# Plumbing & Sensor Components






MA201915

**Used on units with Serial Numbers:**

**ES4301 thru ES5751 ET5400 thru ET7341 FP1073 thru FP1075 FR1178 thru FR1246**
**GB1095 thru GB1129 GC1036 thru GC1093 GD1050 thru GD1102**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 053-0580-00 | Condensing Tank | 1 |
| 2 | H98137 | Gasket | 1 |
| 3 | 014-0216-00 | Bulkhead Union | 1 |
| | 014-0392-00 | Compression Nut Only | AR |
| 4 | 014-0251-00 | Tube **(M11)** | 1 |
| | 014-0279-00 | Tube **(M11D)** | 1 |
| 5 | 016-0748-01 | Nylon Hose Clamp | 1 |
| 6 | 052-0173-00 | Condensing Coil | 1 |
| 7 | 053-0391-01 | Hose | 1 |
| 8 | 002-0358-00 | Level Sensor Tube (Includes items 9,10,16,30, and 31) | 1 |
| 9 | 015-0595-00 | Terminal | 1 |
| 10 | 041-0006-02 | Locknut | 1 |
| 11 | 053-0393-00 | O-ring | 1 |
| 12 | 014-0209-00 | Bulkhead Couple | 1 |
| 13 | 014-0184-01 | Male Elbow | 1 |
| 14 | 014-0255-00 | Tube | 1 |
| 15 | 053-0580-01 | Condensing Tank Lid | 1 |
| 16 | 014-0212-00 | Connector | 1 |
| 17 | 014-0252-00 | Tube | 1 |
| 18 | 002-0375-00 | Bellows Assembly | 1 |
| 19 | 014-0392-00 | Compression Nut (Refer to Kit [*]) | 2 |
| 20 | 014-0208-00 | Tube | 1 |
| 21 | 053-0394-00 | Grommet | 1 |
| 22 | 014-0202-00 | Male Branch Tee | 1 |
| 23 | 014-0315-00 | PCB Pres. Sensor Tube (Refer to Kit [*]) | 1 |
| 24 | 002-0359-00 | Pressure Relief Valve - 35 PSI (Apply Teflon Tape) (Includes Elbow, Item 35) | 1 |
| 25 | 053-0613-02 | Tube - Pressure Relief | 1 |
| 26 | 015-0013-05 | Cable Tie (High Temp) | 2 |
| 27 | 014-0217-00 | Compression Connector (Refer to Kit [*]) | 1 |
| 28 | 053-0404-05 | Tube-PCB Connector (Refer to Kit [*]) | 1 |
| 29 | 002-0357-00 | Temperature Probe Assembly (Apply Teflon Tape) | 1 |
| 30 | 053-0407-00 | Spacer | 1 |
| 31 | 030-0858-00 | Level Sensor Assembly | 1 |
| 32 | 014-0250-00 | Tube | 1 |
| 33 | 014-0258-00 | Male 90° Elbow | 1 |
| 34 | 014-0184-01 | Male Elbow | 1 |
| [*] | 002-0593-00 | Pressure Sensor Tube Kit (Includes #'s 19, 23, 26, 27, & 28) | |

**Always Specify Model & Serial Number**

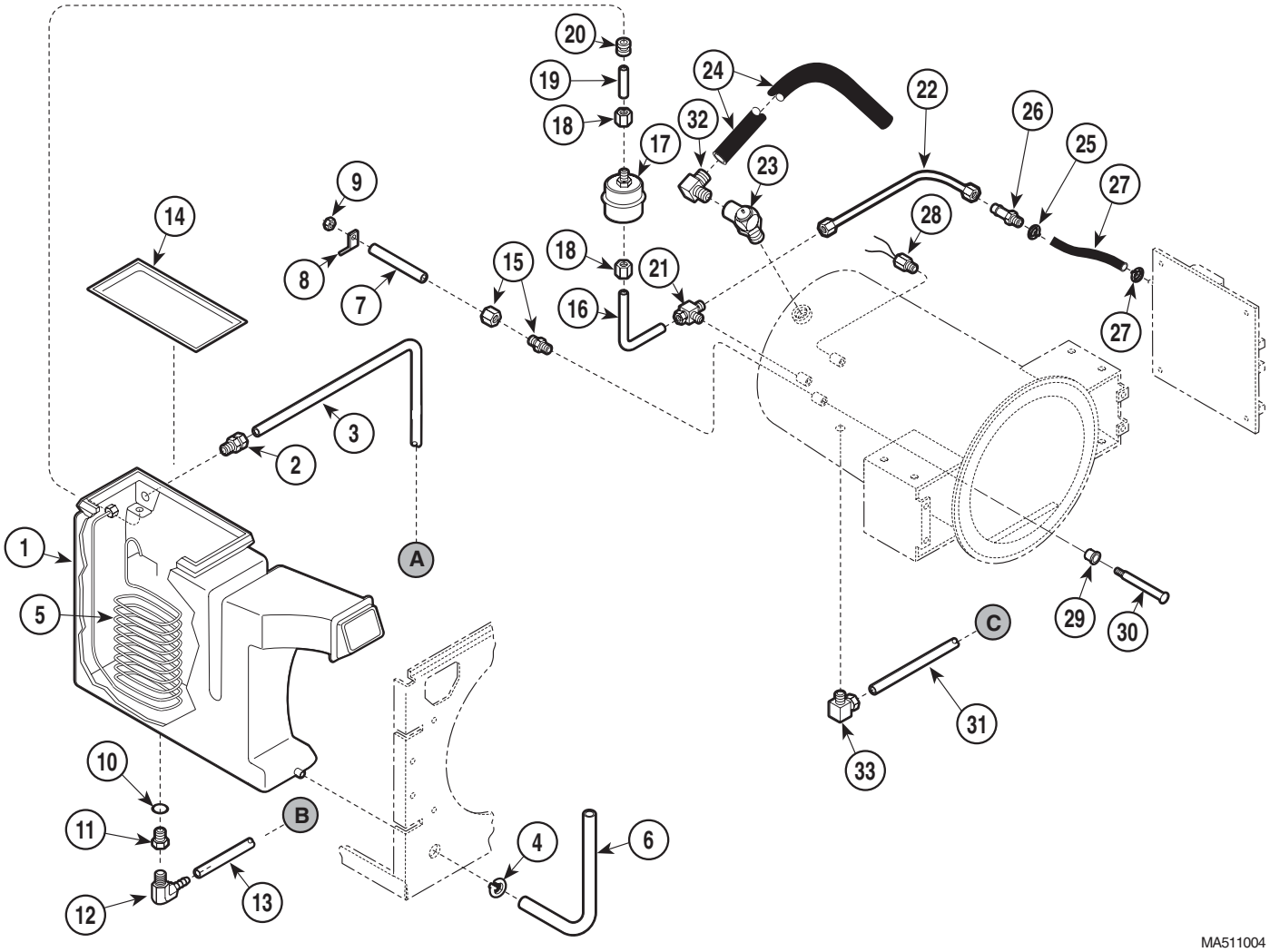
©Midmark Corporation 2002 SF-1827 Rev. 8/06



Printed in U.S.A.

# Plumbing & Sensor Components






MA511004

**Used on units with Serial Numbers:**

**ES5752 thru ES8308 ET7342 thru ET12157 FP1076 thru FP1148**
**FR1147 thru FR1412 GB1129 thru GB1130 NP1000 thru NP1004**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 053-0580-00 | Condensing Tank | 1 |
| 2 | 014-0216-00 | Bulkhead Union | 1 |
| | 014-0392-00 | Compression Nut Only | AR |
| 3 | 014-0251-00 | Tube | 1 |
| 4 | 016-0748-01 | Nylon Hose Clamp | 1 |
| 5 | 052-0173-00 | Condensing Coil | 1 |
| 6 | 053-0391-01 | Hose | 1 |
| 7 | 002-0358-00 | Level Sensor Tube (Includes items 8, 9,15, 29, and 30) | 1 |
| 8 | 015-0595-00 | Terminal | 1 |
| 9 | 041-0006-02 | Locknut | 1 |
| 10 | 053-0393-00 | O-ring | 1 |
| 11 | 014-0209-00 | Bulkhead Couple | 1 |
| 12 | 014-0348-00 | Barb Fitting Elbow | 1 |
| 13 | 053-1033-02 | Norprene Tube | 1 |
| 14 | 053-0580-01 | Condensing Tank Lid | 1 |
| 15 | 014-0212-00 | Connector | 1 |
| 16 | 014-0252-00 | Tube | 1 |
| 17 | 002-0375-00 | Bellows Assembly | 1 |
| 18 | 014-0392-00 | Compression Nut (Refer to Kit [*]) | 2 |
| 19 | 014-0208-00 | Tube | 1 |
| 20 | 053-0394-00 | Grommet | 1 |
| 21 | 014-0202-00 | Male Branch Tee | 1 |
| 22 | 014-0315-00 | PCB Pres. Sensor Tube (Refer to Kit [*]) | 1 |
| 23 | 002-0359-01 | Pressure Relief Valve - 40 PSI (Apply Teflon Tape) (Includes Elbow, Item 32) | 1 |
| 24 | 053-0613-02 | Tube - Pressure Relief | 1 |
| 25 | 015-0013-05 | Cable Tie (High Temp) | 2 |
| 26 | 014-0217-00 | Compression Connector (Refer to Kit [*]) | 1 |
| 27 | 053-0404-05 | Tube-PCB Connector (Refer to Kit [*]) | 1 |
| 28 | 002-0357-00 | Temperature Probe Assembly29 (Apply Teflon Tape) | 0 |
| 29 | 053-0407-00 | Spacer | 1 |
| 30 | 030-0858-00 | Level Sensor Assembly | 1 |
| 31 | 014-0250-00 | Tube | 1 |
| 32 | 014-0258-00 | Male 90° Elbow | 1 |
| 33 | 014-0184-01 | Male Elbow | 1 |
| [*] | 002-0593-00 | Pressure Sensor Tube Kit (Includes #'s 18, 22, 25, 26, & 27) | |

**Always Specify Model & Serial Number**

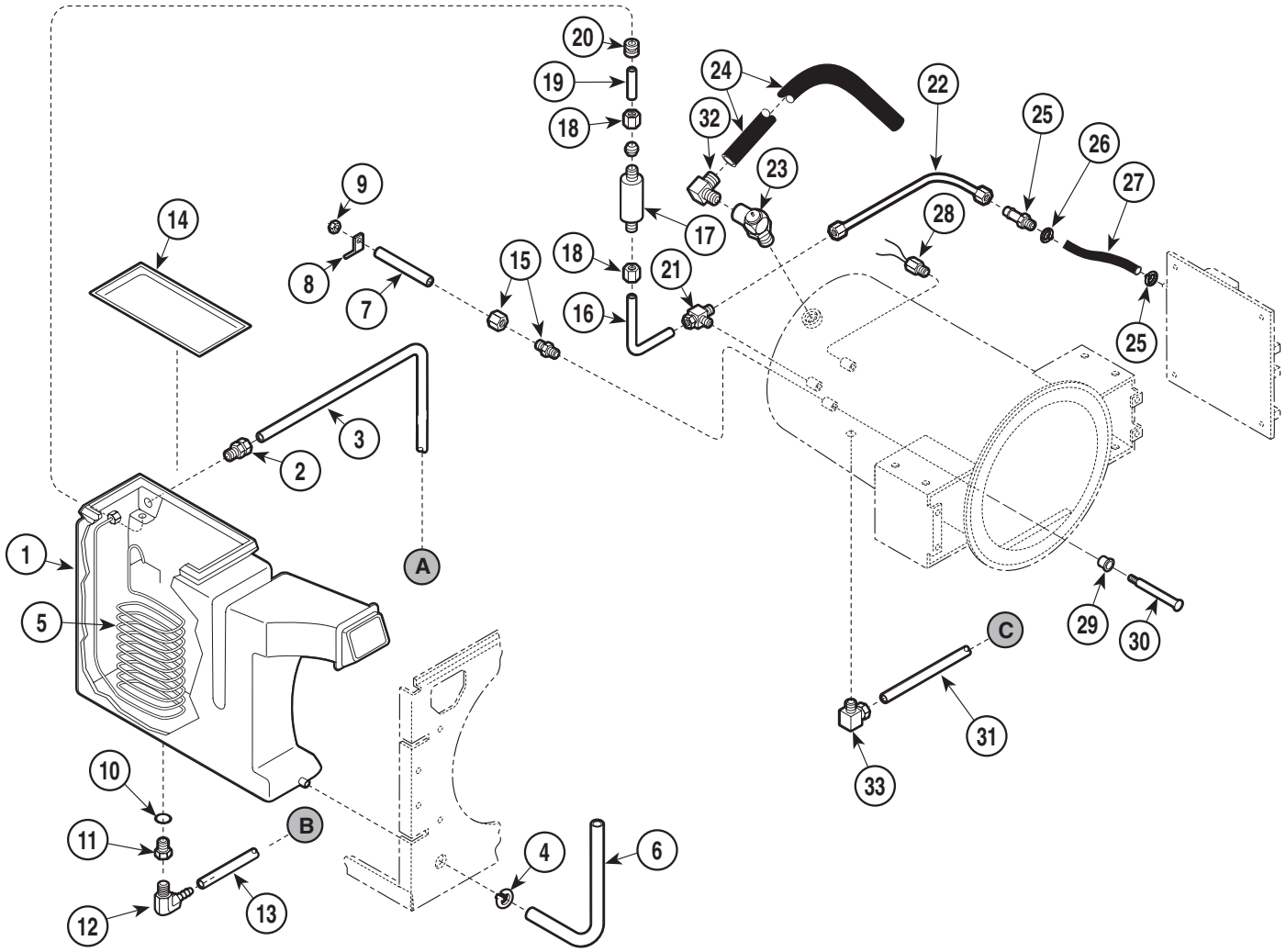
© Midmark Corporation 2002 SF-1827 Rev. 8/06



Printed in U.S.A.

# Plumbing & Sensor Components






MA511005

**Used on units with Serial Numbers:**

**ES8309, ET12158, FP1149, FR1413, GB1131, GC1094, GD1103, NP1005 - thru present**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 053-0580-00 | Condensing Tank | 1 |
| 2 | 014-0216-00 | Bulkhead Union | 1 |
| | 014-0392-00 | Compression Nut Only | AR |
| 3 | 014-0251-00 | Tube **(M11)** | 1 |
| | 014-0279-00 | Tube **(M11D)** | 1 |
| 4 | 016-0748-01 | Nylon Hose Clamp | 1 |
| 5 | 052-0173-00 | Condensing Coil | 1 |
| 6 | 053-0391-01 | Hose | 1 |
| 7 | 002-0358-00 | Level Sensor Tube (Includes items 8,9,15,29,and 30) | 1 |
| 8 | 015-0595-00 | Terminal | 1 |
| 9 | 041-0006-02 | Locknut | 1 |
| 10 | 053-0393-00 | O-ring | 1 |
| 11 | 014-0209-00 | Bulkhead Couple | 1 |
| 12 | 014-0348-00 | Barb Fitting Elbow | 1 |
| 13 | 053-1033-02 | Norprene Tube | 1 |
| 14 | 053-0580-01 | Condensing Tank Lid | 1 |
| 15 | 014-0212-00 | Connector | 1 |
| 16 | 014-0252-00 | Tube | 1 |
| 17 | 002-0654-00 | Steam Trap Assembly | 1 |
| 18 | 014-0392-00 | Compression Nut (Refer to Kit [*]) | 2 |
| 19 | 014-0208-00 | Tube | 1 |
| 20 | 053-0394-00 | Grommet | 1 |
| 21 | 014-0202-00 | Male Branch Tee | 1 |
| 22 | 014-0315-00 | PCB Pres. Sensor Tube (Refer to Kit [*]) | 1 |
| 23 | 002-0359-01 | Pressure Relief Valve - 40 PSI (Apply Teflon Tape) (Includes Elbow, Item 32) | 1 |
| 24 | 053-0613-02 | Tube - Pressure Relief | 1 |
| 25 | 015-0013-05 | Cable Tie (High Temp) | 2 |
| 26 | 014-0217-00 | Compression Connector (Refer to Kit [*]) | 1 |
| 27 | 053-0404-05 | Tube-PCB Connector (Refer to Kit [*]) | 1 |
| 28 | 002-0357-00 | Temperature Probe Assembly (Apply Teflon Tape) | 1 |
| 29 | 053-0407-00 | Spacer | 1 |
| 30 | 030-0858-00 | Level Sensor Assembly | 1 |
| 31 | 014-0250-00 | Tube | 1 |
| 32 | 014-0258-00 | Male 90° Elbow | 1 |
| 33 | 014-0184-01 | Male Elbow | 1 |
| [*] | 002-0593-00 | Pressure Sensor Tube Kit (Includes #'s 18, 22, 25, 26, & 27) | |

**Always Specify Model & Serial Number**

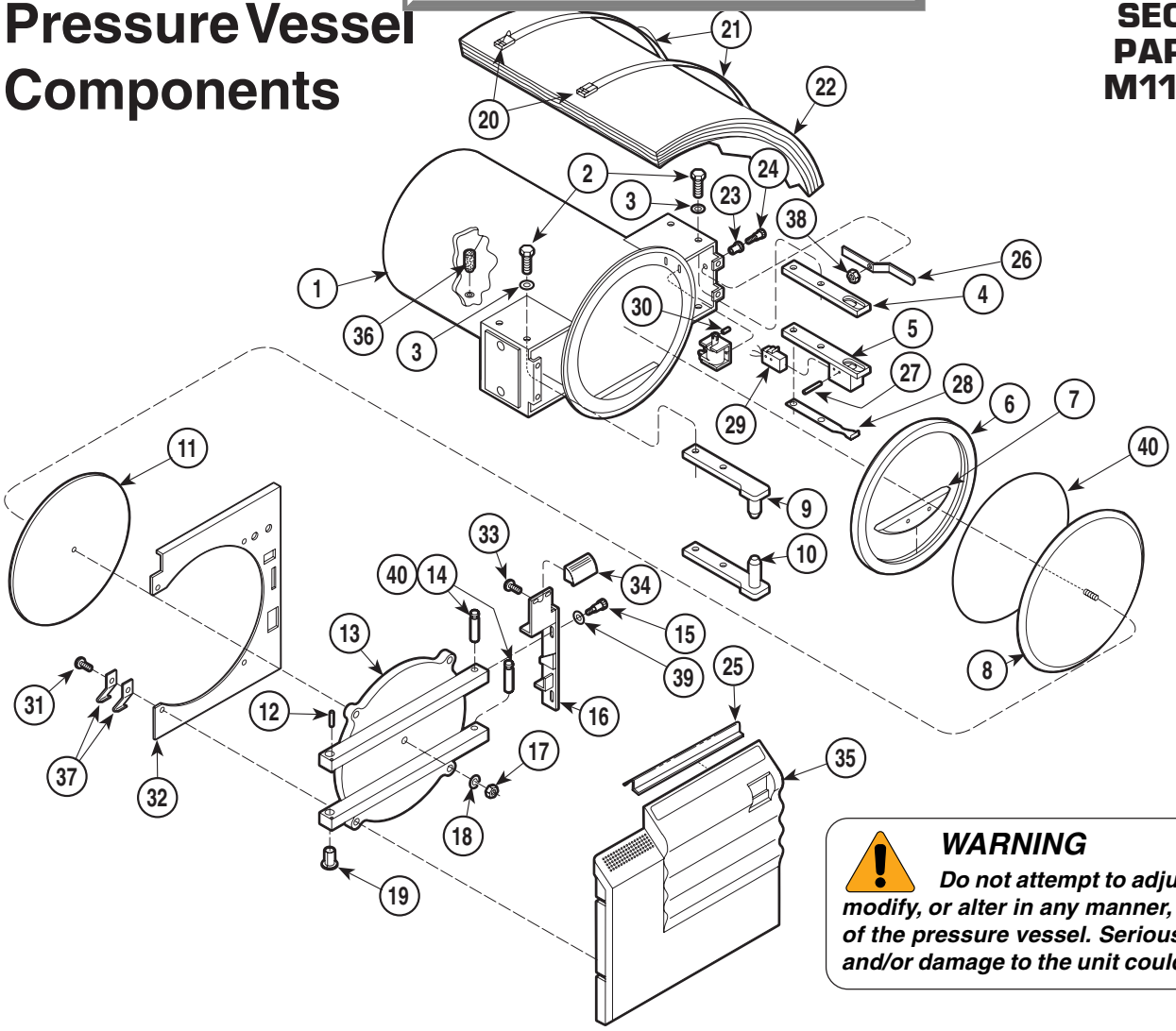
©Midmark Corporation 2002 SF-1827 Rev. 8/06



Printed in U.S.A.

# Pressure Vessel Components






**WARNING**

***Do not attempt to adjust, modify, or alter in any manner, any part of the pressure vessel. Serious injury and/or damage to the unit could result.***

MA202016

**Used on units with Serial Numbers:**

**ES1000 thru ES4879 ET1000 thru ET6315 FP1000 thru FP1073**
**FR1000 thru FR1412 GB1000 thru GB1109**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | | Chamber | 1 |
| 2 | | Screw | 8 |
| 3 | | Washer | 12 |
| 4 | | Right Bracket | 1 |
| 5 | | Switch Bracket Weldment | 1 |
| 6 | 002-0504-00 | Door Gasket Kit (Includes item 7) | 1 |
| | • 053-0527-00 | • Door Gasket | 1 |
| | • 053-0784-00 | • Dam Gasket | 1 |
| 7 | 002-0508-00 | Dam Gasket Kit | 1 |
| | • 053-0784-00 | • Dam Gasket | 1 |
| 8 | 030-0879-00 | Gasket Housing Weldment | 1 |
| 9 | | Top Bracket | 1 |
| 10 | | Bottom Bracket | 1 |
| 11 | 016-0395-02 | Door Insulation Pad | 1 |
| 12 | 042-0104-00 | Roll Pin | 1 |
| 13 | | Door | 1 |
| 14 | | Door Bolt | 2 |
| 15 | 042-0106-00 | Shoulder Screw | 2 |
| 16 | 050-4183-00 | Latch | 1 |
| 17 | 041-0000-00 | Nut | 1 |
| 18 | 045-0000-00 | Lockwasher | 1 |
| 19 | | Flange Bearing | 2 |
| 20 | H99387 | Aluminum Seal | 2 |
| 21 | H99388-44 | Insulation Strap | 2 |
| 22 | 053-0585-00 | Insulation Wrapper | 1 |
| 23 | 016-0131-16 | Flanged Bearing (Not used on M11D) | 1 |
| 24 | 042-0106-00 | Shoulder Screw (Not used on M11D) | |
| | | [Apply Valve Lubricant #064-0002-00] | 1 |
| 25 | 053-0630-01 | Steam Block | 1 |
| 26 | 050-5192-00 | Latch Lever (Not used on M11D) | 1 |
| 27 | 042-0001-23 | Roll Pin | 2 |
| 28 | 050-2623-00 | Spring Arm | 1 |
| 29 | 002-0362-00 | Door Switch (Includes Item 27) | 1 |
| 30 | 042-0001-09 | Roll Pin (Not used on M11D) | 1 |
| 31 | 040-0008-87 | Screw | 4 |
| 32 | 050-2624-00 | Inside Door Cover | 1 |
| 33 | 040-0010-75 | Screw | 2 |
| 34 | 053-0909-00 | Door Handle | 1 |
| 35 | 002-0506-00 | Ritter M11 Door Panel (Incl. Decal) | 1 |
| | 002-0506-01 | Midmark M11 Door Panel (Incl. Decal) | 1 |
| | 002-0506-04 | EMS M11 Door Panel | 1 |
| 36 | 002-0360-00 | Filter | 1 |
| 37 | 050-2347-00 | Door Spring | 2 |
| 38 | 041-0010-00 | Nut | 1 |
| 39 | 045-0000-04 | Washer | 2 |
| 40 | 064-0014-00 | Grease | AR |
| 41 | 057-0790-00 | Gasket Ring (Incl. in 002-0504-00 Kit) | 1 |

**Always Specify Model & Serial Number**

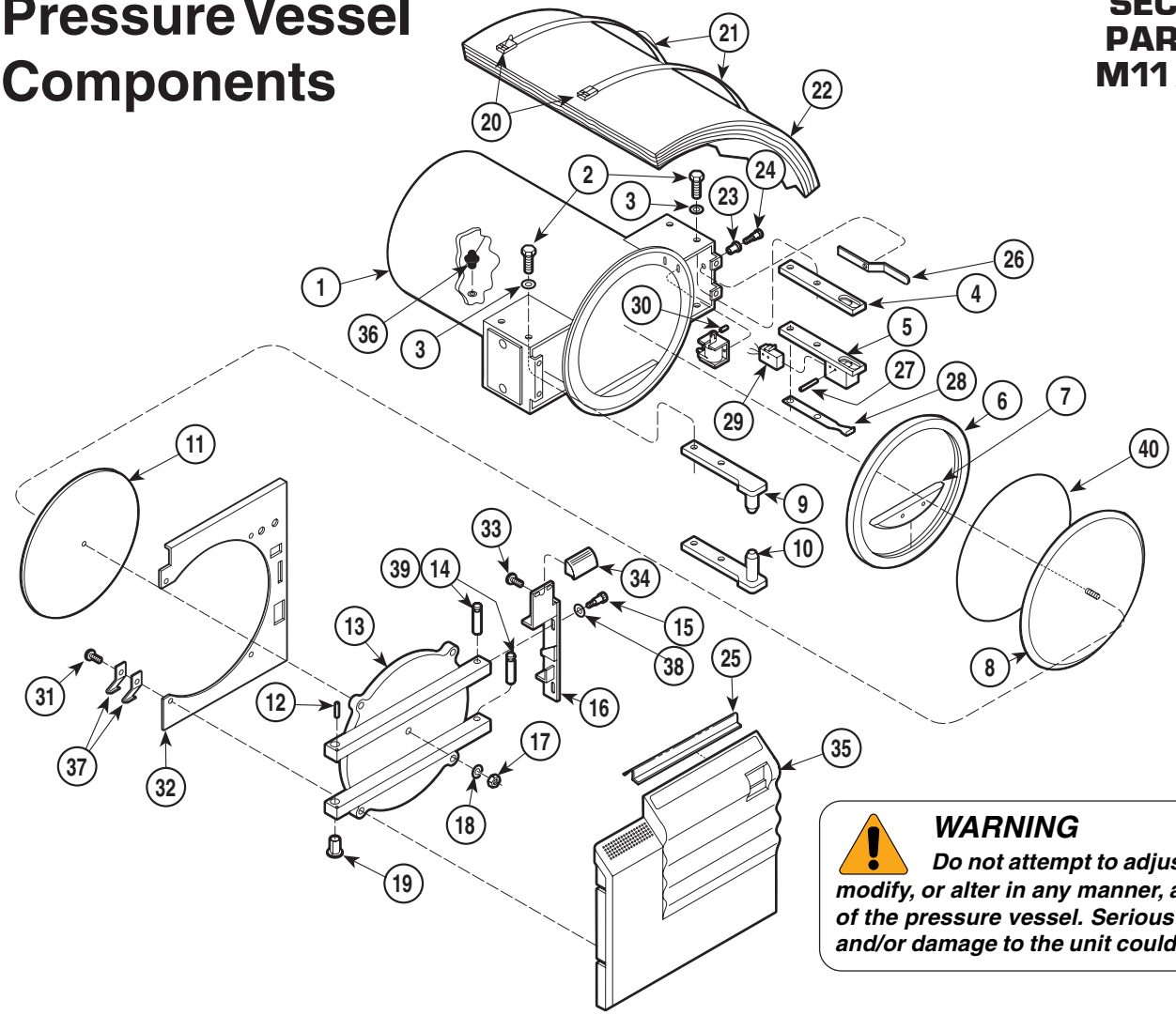
© Midmark Corporation 2002 SF-1827 Rev. 8/06



Printed in U.S.A.

# Pressure Vessel Components






**WARNING**

***Do not attempt to adjust, modify, or alter in any manner, any part of the pressure vessel. Serious injury and/or damage to the unit could result.***

MA202014

## Used on units with Serial Numbers:

**ES4880, ET6316, FP1074, FR1204, GB1110, GC1000, GD1000, NP1000 - thru present**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | | Chamber | 1 |
| 2 | | Screw | 8 |
| 3 | | Washer | 12 |
| 4 | | Right Bracket | 1 |
| 5 | | Switch Bracket Weldment | 1 |
| 6 | 002-0504-00 | Door Gasket Kit (Includes item 7) | 1 |
| | • 053-0527-00 | • Door Gasket | 1 |
| | • 053-0904-00 | • Dam Gasket | 1 |
| 7 | 002-0508-00 | Dam Gasket Kit | 1 |
| | • 053-0904-00 | • Dam Gasket | 1 |
| 8 | 030-0879-00 | Gasket Housing Weldment | 1 |
| 9 | | Top Bracket | 1 |
| 10 | | Bottom Bracket | 1 |
| 11 | 016-0395-02 | Door Insulation Pad | 1 |
| 12 | 042-0104-00 | Roll Pin | 1 |
| 13 | | Door | 1 |
| 14 | | Door Bolt | 2 |
| 15 | 042-0106-00 | Shoulder Screw | 2 |
| 16 | 050-4183-00 | Latch | 1 |
| 17 | 041-0000-00 | Nut | 1 |
| 18 | 045-0000-00 | Lockwasher | 1 |
| 19 | | Flange Bearing | 2 |
| 20 | H99387 | Aluminum Seal | 2 |
| 21 | H99388-44 | Insulation Strap | 2 |
| 22 | 053-0585-00 | Insulation Wrapper | 1 |

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 23 | 016-0131-18 | Flanged Bearing (Not used on M11D) | 1 |
| 24 | 042-0106-00 | Shoulder Screw (Not used on M11D) (apply lubricant #064-0002-00]) | 1 |
| 25 | 053-0630-01 | Steam Block | 1 |
| 26 | 050-5192-00 | Latch Lever (Not used on M11D) | 1 |
| 27 | 042-0001-23 | Roll Pin | 2 |
| 28 | 050-5245-00 | Spring Arm | 1 |
| 29 | 002-0362-00 | Door Switch (Includes Item 27) | 1 |
| 30 | 042-0001-09 | Roll Pin (Not used on M11D) | 1 |
| 31 | 040-0008-87 | Screw | 4 |
| 32 | 050-3969-00 | Inside Door Cover | 1 |
| 33 | 040-0010-75 | Screw | 2 |
| 34 | 053-0909-00 | Door Handle (M11) | 1 |
| | 053-0909-01 | Door Handle (M11D) | 1 |
| 35 | 002-0506-00 | Ritter M11 Door Panel (w/ decal) | 1 |
| | 002-0506-01 | Midmark M11 Door Panel (w/ decal) | 1 |
| | 002-0506-02 | M11D Door Panel | 1 |
| 36 | 002-0360-00 | Filter | 1 |
| 37 | 050-2347-00 | Door Spring | 2 |
| 38 | 045-0000-04 | Washer | 2 |
| 39 | 064-0014-00 | Grease | AR |
| 40 | 057-0790-00 | Gasket Ring (Incl. in 002-0504-00 Kit) | 1 |

**Always Specify Model & Serial Number**

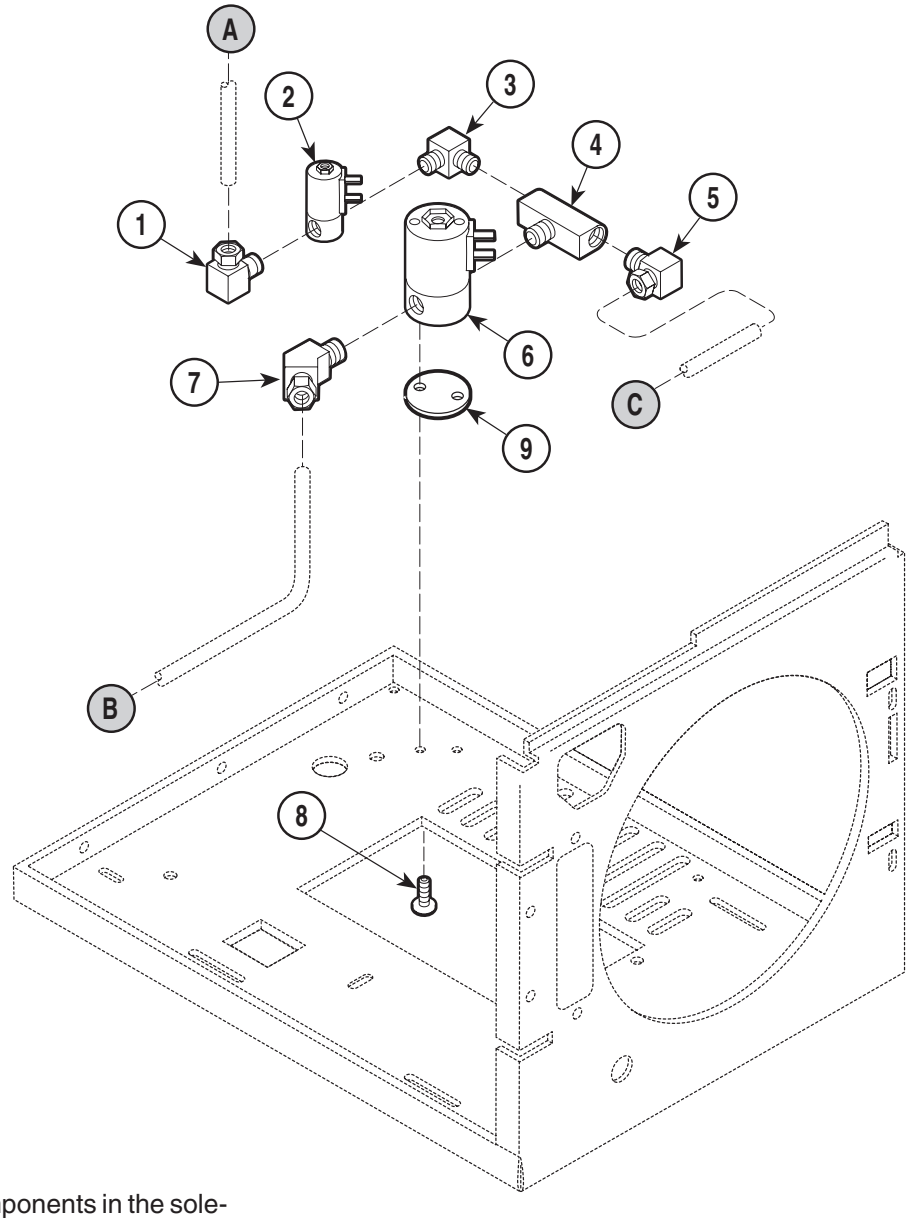
©Midmark Corporation 2002 SF-1827 Rev. 10/07



Printed in U.S.A.

# M11 Manifold Components






## NOTE

When replacing components in the solenoid, examine the existing valve to determine if it was Full Wave Rectified (if so will be marked **FWR**).

MA202201

**Used on Units with Serial Numbers**
**ES1000 thru ES1346 ET1000 thru ET1094**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| | 029-1271-00 | Manifold Assembly (120V/60Hz) (includes items 1 thru 7) | |
| | 029-1271-01 | Manifold Assembly (230V/50Hz) (includes items 1 thru 7) | |
| 1 | • 014-0184-00 | Male 90° Elbow | 1 |
| 2 | • 002-0366-00 | Solenoid Valve (120V/60Hz) [Vent] | 1 |
| | • 002-0366-01 | Solenoid Valve (230V/50Hz) [Vent] | 1 |
| | • • 014-0235-03 | • Replacement Coil (120V/60Hz) | 1 |
| | • • 014-0235-04 | • Replacement Plunger | 1 |
| 3 | • 014-0218-01 | Male Elbow | 1 |
| 4 | • 014-0234-00 | Male Branch Tee | 1 |
| 5 | • 014-0184-01 | Male 90° Elbow | 1 |
| 6 | • 002-0365-00 | Solenoid Valve (120V/60Hz) [Fill] | 1 |
| | • 002-0365-01 | Solenoid Valve (230V/50Hz) [Fill] | 1 |
| | • • 014-0236-08 | • Replacement Coil (120V/60Hz) | 1 |
| | • • 014-0236-10 | • Replacement Coil (120V/50-60 **FWR**) | 1 |
| | • • 014-0236-09 | • Replmt. Plunger (120V/60Hz) | 1 |
| | • • 014-0236-11 | • Replmt. Plunger (120V/50-60 **FWR**) | 1 |
| 7 | • 014-0201-00 | Male 45° Elbow | 1 |
| 8 | 040-0010-74 | Screw (Apply Loctite #042-0024-02) | 2 |
| 9 | 050-2657-00 | Spacer | 1 |

**Always Specify Model & Serial Number**

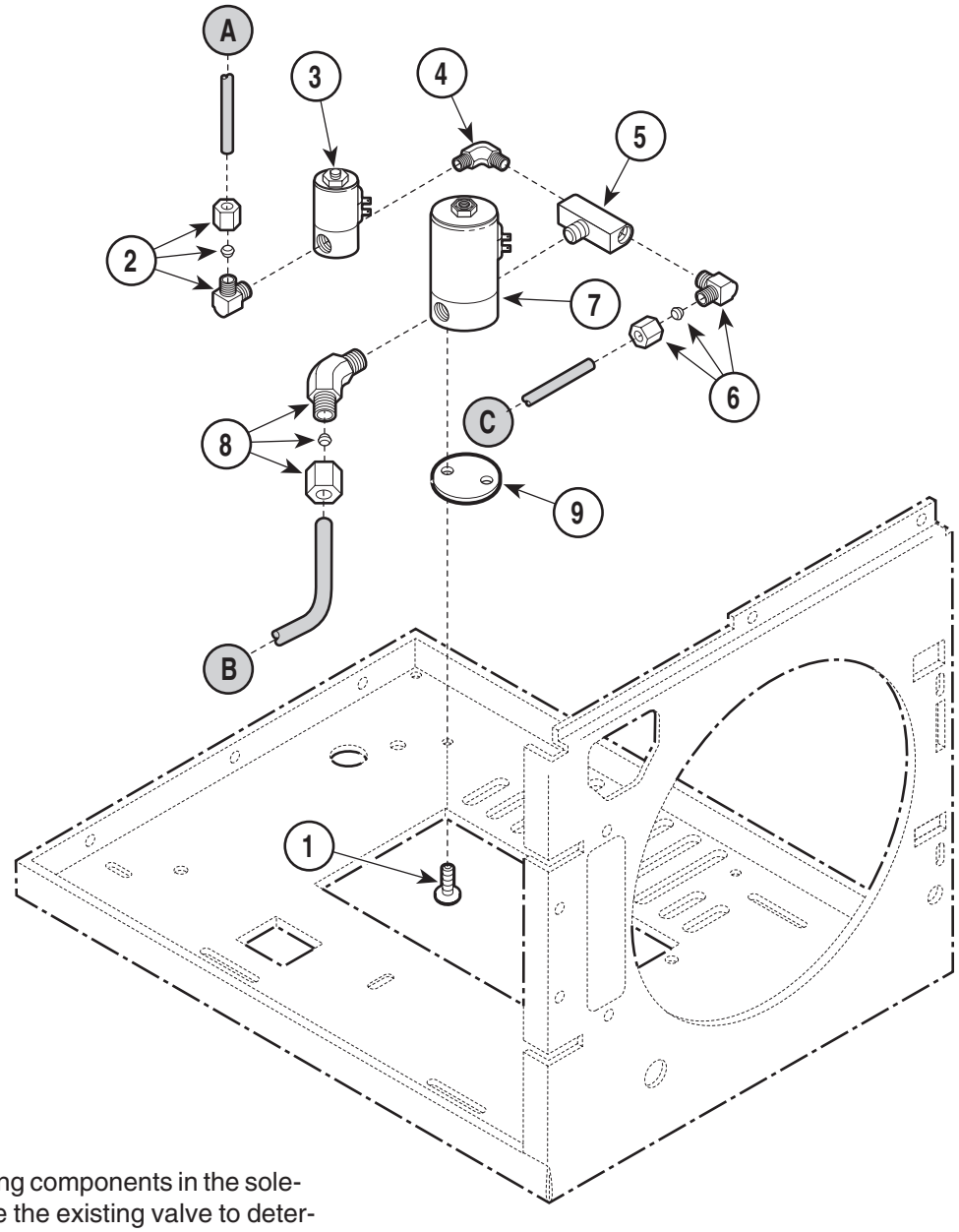
© Midmark Corporation 2002 SF-1827 Rev. 6/06



Printed in U.S.A.

# M11 Manifold Components






## NOTE

When replacing components in the solenoid, examine the existing valve to determine if it was Full Wave Rectified (if so, will be marked **FWR**).

MA202206

**Used on units with Serial Numbers:**
**ES1347 thru ES5751 ET1095 thru ET7341 FP1000 thru FP1075**
**FR1000 thru FR1246 GB1000 thru GB1129**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| | 029-1271-00 | Manifold Assembly (120V/60Hz) (includes items 2 thru 8) | |
| | 029-1271-01 | Manifold Assembly (230V/50Hz) (includes items 2 thru 8) | |
| 1 | 040-0010-74 | Screw (Apply Loctite #042-0024-02) | 2 |
| 2 | • 014-0184-00 | Male 90° Elbow | 1 |
| 3 | • 002-0366-00 | Solenoid Valve (120V/60Hz) [Vent] | 1 |
| | • 002-0366-01 | Solenoid Valve (230V/50Hz) [Vent] | 1 |
| | • • 014-0235-03 | • Replacement Coil (120V/60Hz) | 1 |
| | • • 014-0235-04 | • Replacement Plunger | 1 |
| 4 | • 014-0218-01 | Male Elbow | 1 |
| 5 | • 014-0234-00 | Male Branch Tee | 1 |
| 6 | • 014-0184-01 | Male 90° Elbow | 1 |
| 7 | • 002-0365-00 | Solenoid Valve (120V/60Hz) [Fill] | 1 |
| | • 002-0365-01 | Solenoid Valve (230V/50Hz) [Fill] | 1 |
| | • • 014-0236-08 | • Replacement Coil (120V/60Hz) | 1 |
| | • • 014-0236-10 | • Replacement Coil (120V/50-60 **FWR**) | 1 |
| | • • 014-0236-09 | • Replmt. Plunger (120V/60Hz) | 1 |
| | • 014-0236-11 | • Replmt. Plunger (120V/50-60 **FWR**) | 1 |
| | • • 002-0694-00 | • Replmt. Plunger & Coil (**FWR**) | 1 |
| 8 | • 014-0201-00 | Male 45° Elbow | 1 |
| 9 | 050-2657-00 | Spacer | 1 |

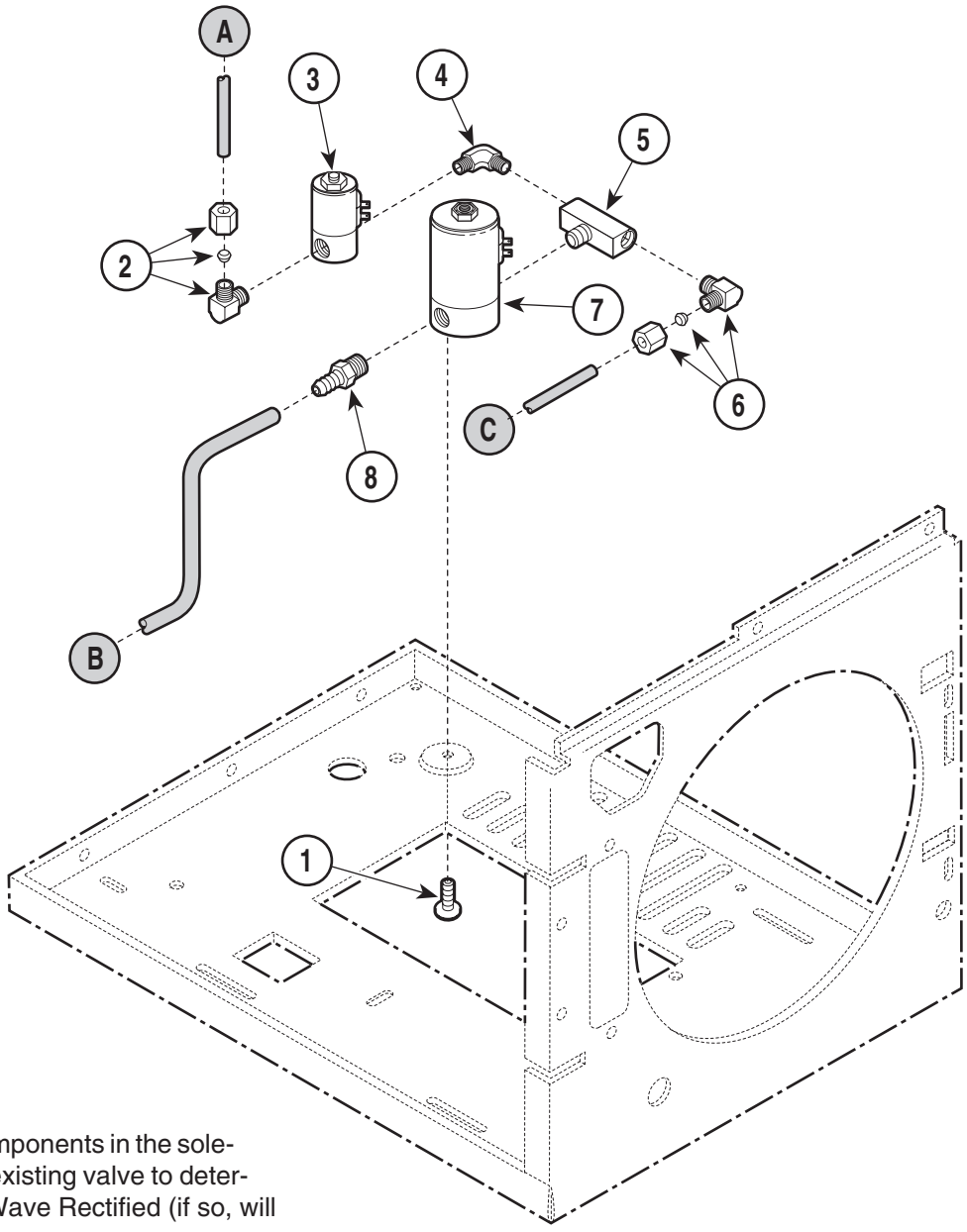
**Always Specify Model & Serial Number**

©Midmark Corporation 2002 SF-1827 Rev. 6/06

Printed in U.S.A.

# M11 Manifold Components






## NOTE

When replacing components in the solenoid, examine the existing valve to determine if it was Full Wave Rectified (if so, will be marked **FWR**).

MA511400

**Used on units with Serial Numbers:**
**ES5752, ET7342, FP1076, FR1247, GB1130, NP1000 - thru present**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| | 029-1271-00 | Manifold Assembly (120V/60Hz) (includes items 2 thru 8) | |
| | 029-1271-01 | Manifold Assembly (230V/50Hz) (includes items 2 thru 8) | |
| 1 | 040-0010-74 | Screw (Apply Loctite #042-0024-02) | 2 |
| 2 | • 014-0184-00 | Male 90° Elbow | 1 |
| 3 | • 002-0366-00 | Solenoid Valve (120V/60Hz) [Vent] | 1 |
| | • 002-0366-01 | Solenoid Valve (230V/50Hz) [Vent] | 1 |
| | • • 014-0235-03 | • Replacement Coil (120V/60Hz) | 1 |
| | • • 014-0235-04 | • Replacement Plunger | 1 |
| 4 | • 014-0218-01 | Male Elbow | 1 |
| 5 | • 014-0234-00 | Male Branch Tee | 1 |
| 6 | • 014-0184-01 | Male 90° Elbow | 1 |
| 7 | • 002-0365-00 | Solenoid Valve (120V/60Hz) [Fill] | 1 |
| | • 002-0365-01 | Solenoid Valve (230V/50Hz) [Fill] | 1 |
| | • • 014-0236-08 | • Replacement Coil (120V/60Hz) | 1 |
| | • • 014-0236-10 | • Replacement Coil (120V/50-60 **FWR**) | 1 |
| | • • 014-0236-09 | • Replmt. Plunger (120V/60Hz) | 1 |
| | • • 014-0236-11 | • Replmt. Plunger (120V/50-60 **FWR**) | 1 |
| | • • 002-0694-00 | • Replmt. Plunger & Coil (**FWR**) | 1 |
| 8 | • 014-0347-00 | Barb Fitting Elbow | 1 |

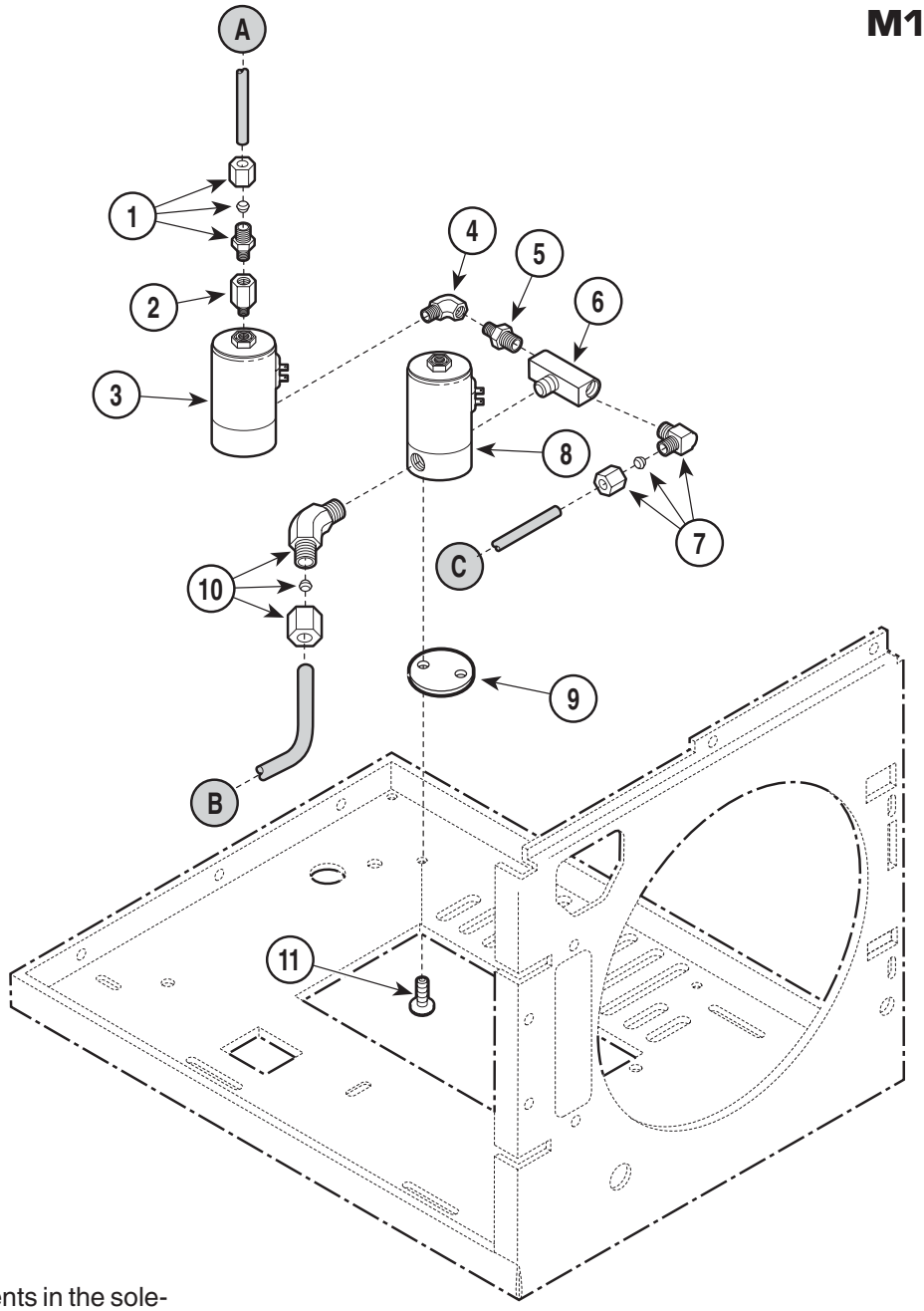
**Always Specify Model & Serial Number**

© Midmark Corporation 2002 SF-1827 Rev. 6/06

Printed in U.S.A.

# M11D Manifold Components






## NOTE

When replacing components in the solenoid, examine the existing valve to determine if it was Full Wave Rectified (if so, will be marked **FWR**).

MA202207

**Used on Units with Serial Numbers**
**GC1000 thru GC1093 GD1000 thru GD1102**

| Item | Part No. | Description | Qty. | Item | Part No. | Description | Qty. |
|---|---|---|---|---|---|---|---|
| 1 | 014-0183-01 | Male Connector | 1 | 8 | 002-0365-00 | Solenoid Valve{120V/60Hz} | 1 |
| 2 | | Reducer Fitting | 1 | | • 014-0236-08 | • Replacement Coil (120V/60Hz) | 1 |
| 3 | 002-0519-00 | Solenoid Valve {120V/60Hz} (Includes Item 2 | 1 | | • 014-0236-10 | • Replacement Coil (120V/50-60 **FWR**) | 1 |
| | • 014-0275-02 | • Replacement Coil & Plunger | 1 | | • 014-0236-09 | • Replmt. Plunger (120V/60Hz) | 1 |
| 4 | 014-0194-00 | Street Elbow | 1 | | • 014-0236-11 | • Replmt. Plunger (120V/50-60 **FWR**) | 1 |
| 5 | 014-0276-00 | Reducer Nipple | 1 | | • 002-0694-00 | • Replmt. Plunger & Coil (**FWR**) | 1 |
| 6 | 014-0234-00 | Male Branch Tee | 1 | 9 | 050-2657-00 | Spacer | 1 |
| 7 | 014-0184-01 | Male 90° Elbow | 1 | 10 | 014-0201-00 | Male 45° Elbow | 1 |
| | | | | 11 | 040-0010-74 | Screw (Apply Loctite #042-0024-02) | 2 |

**Always Specify Model & Serial Number**

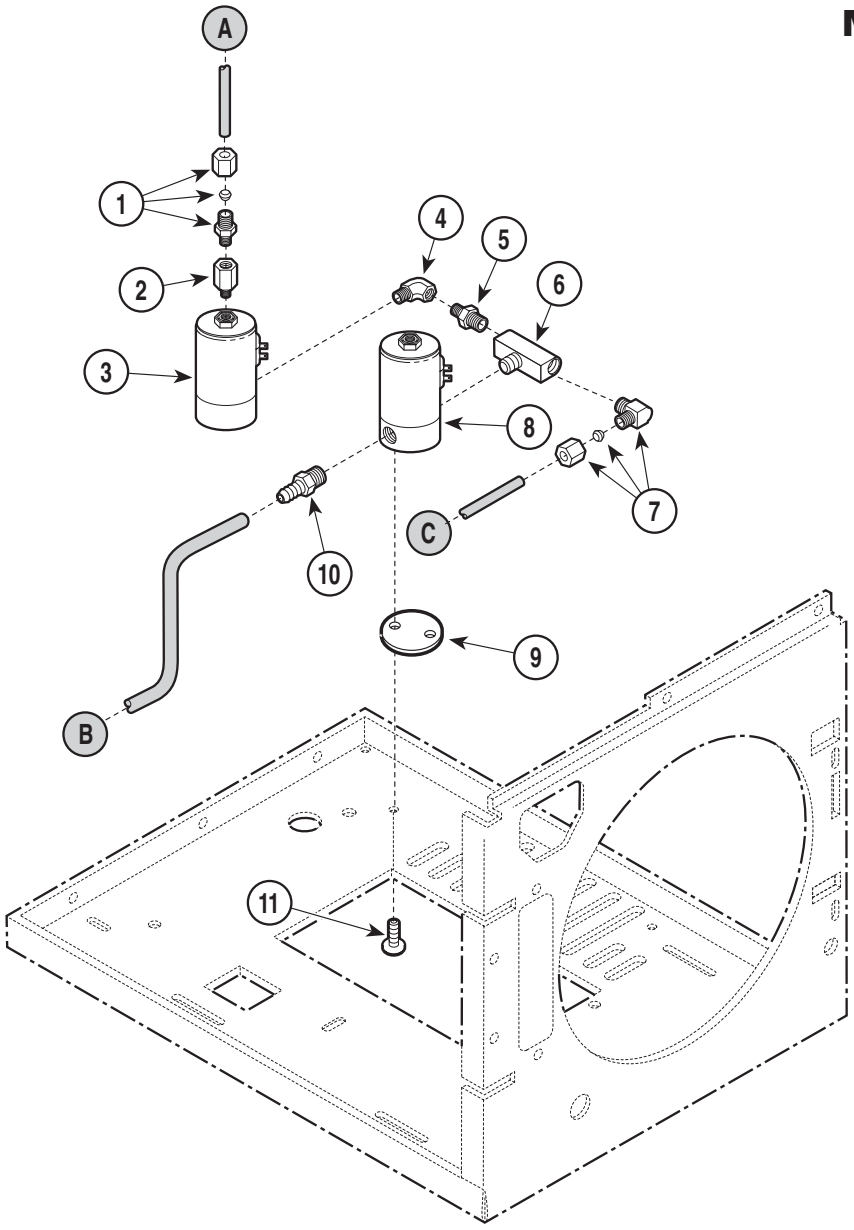
© Midmark Corporation 2002 SF-1827 Rev. 8/04



Printed in U.S.A.

# M11D Manifold Components






## NOTE

When replacing components in the solenoid, examine the existing valve to determine if it was Full Wave Rectified (if so, will be marked **FWR**).

MA510900

**Used on Units with Serial Numbers**
**GC1094 & GD1103 - thru present**

| Item | Part No. | Description | Qty. | Item | Part No. | Description | Qty. |
|---|---|---|---|---|---|---|---|
| 1 | 014-0183-01 | Male Connector | 1 | 8 | 002-0365-00 | Solenoid Valve{120V/60Hz}[Fill] | 1 |
| 2 | | Reducer Fitting | 1 | | • 014-0236-08 | • Replacement Coil (120V/60Hz) | 1 |
| 3 | 002-0519-00 | Solenoid Valve {120V/60Hz} [Vent] (Includes Item 2 | 1 | | • 014-0236-10 | • Replacement Coil (120V/50-60 **FWR**) | 1 |
| | | | | | • 014-0236-09 | • Replmt. Plunger (120V/60Hz) | 1 |
| | • 014-0275-02 | • Replacement Coil & Plunger | 1 | | • 014-0236-11 | • Replmt. Plunger (120V/50-60 **FWR**) | 1 |
| 4 | 014-0194-00 | Street Elbow | 1 | | • 014-0236-04 | • Replacement Plunger | 1 |
| 5 | 014-0276-00 | Reducer Nipple | 1 | | • 002-0694-00 | • Replmt. Plunger & Coil (**FWR**) | 1 |
| 6 | 014-0234-00 | Male Branch Tee | 1 | 9 | 050-2657-00 | Spacer (Used with Flat Surface Base) | 1 |
| 7 | 014-0184-01 | Male 90° Elbow | 1 | 10 | 014-0347-00 | Barb Fitting | 1 |
| | | | | 11 | 040-0010-74 | Screw (Apply Loctite #042-0024-02) | 2 |

**Always Specify Model & Serial Number**

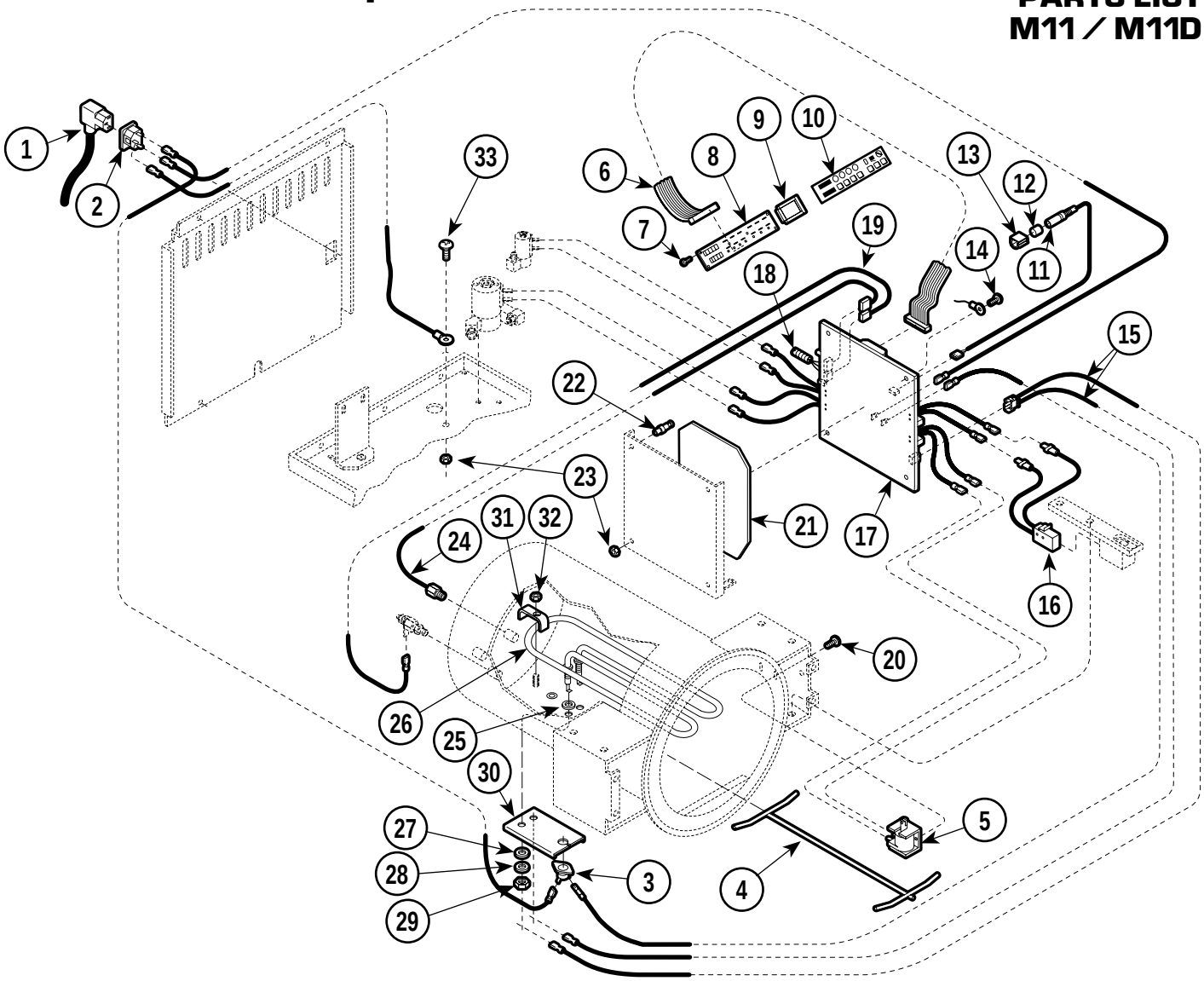
© Midmark Corporation 2002 SF-1827 Rev 9/04



Printed in U.S.A.

# Electrical Components






MA202305

## Used on Units with Serial Numbers
## ES1000 thru ES1346 ET1000 thru ET1094

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | | Cordset (Refer to W/D in Section 5) | Ref |
| 2 | 015-0639-00 | AC Connector Receptacle | 1 |
| 3 | 002-0370-00 | Thermostat | 1 |
| 4 | 030-0916-00 | Spacer Assembly | 1 |
| 5 | 002-0363-03 | Solenoid-{120V} | 1 |
| 6 | 015-0646-00 | Ribbon Connector | 1 |
| 7 | 040-0006-04 | Screw | 6 |
| 8 | 002-0369-00 | Display PC Board | 1 |
| 9 | 053-0454-00 | Display Gasket | 1 |
| 10 | 061-0272-01 | Display Overlay | 1 |
| 11 | 015-0978-00 | Harness - PCB/Printer | 1 |
| 12 | 053-0440-00 | Cap Plug | 1 |
| 13 | 053-0389-00 | Printer Harness Clip | 1 |
| 14 | 040-0010-46 | Screw | 1 |
| 15 | 015-0657-00 | PCB/Heater Harness | 1 |
| 16 | | Switch Assembly (Refer to "Pressure Vessel Components" Elsewhere) | Ref |
| 17 | | Control PC Board (Refer to "Control PC Board" Elsewhere) | Ref |
| 18 | 015-0257-02 | Flex Guard Tubing | 1 |
| 19 | 015-0654-00 | Chamber Level Sensor Harness | 1 |
| 20 | 040-0010-74 | Screw | 2 |
| 21 | 053-0455-00 | Insulator | 1 |
| 22 | 053-0295-01 | Standoff | 3 |
| 23 | 041-0010-04 | Locknut | 2 |
| 24 | | Temperature Probe Assembly (Refer to "Plumbing & Sensor Components Elsewhere) | Ref |
| 25 | H98137 | Gasket | 2 |
| 26 | 002-0505-00 | Heat Element-{120V} (Incl. Gaskets) | 1 |
| 27 | H97971 | Washer | 2 |
| 28 | 045-0001-56 | Lockwasher | 2 |
| 29 | | Nut (Included with Item 26) | 2 |
| 30 | H225617 | Bracket | 1 |
| 31 | 050-3340-00 | Heater Bracket | 1 |
| 32 | 041-0250-18 | Nut | 1 |
| 33 | 040-0010-75 | Screw | 1 |

**Always Specify Model & Serial Number**

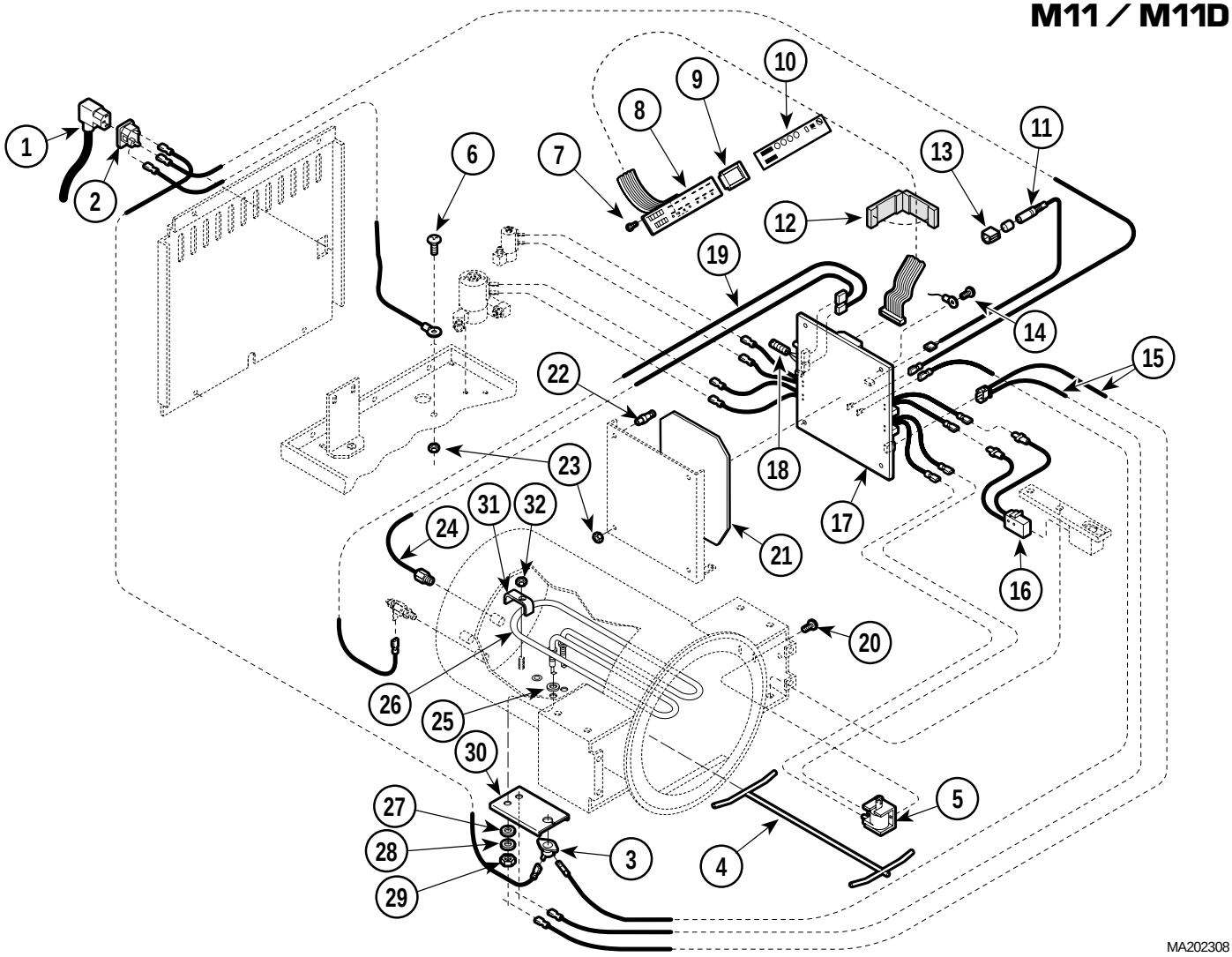
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Electrical Components






MA202308

**Used on units with Serial Numbers:**
**ES1347 thru ES3020 ET1095 thru ET3317 GC1000 thru GC1018 GD1000 thru GD1015**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | | Cordset (Refer to W/D in Section 5) ... | Ref |
| 2 | 015-0639-00 | AC Connector Receptacle ..... | 1 |
| 3 | 002-0370-00 | Thermostat ..... | 1 |
| 4 | 057-0426-00 | Spacer Assembly ..... | 1 |
| 5 | 002-0363-03 | Solenoid-{120V} ..... | 1 |
| | 002-0363-04 | Solenoid-{230V} ..... | 1 |
| 6 | 040-0010-75 | Screw ..... | 1 |
| 7 | 040-0006-04 | Screw (Apply Loctite #042-0024-00) ..... | 6 |
| 8 | 002-0369-02 | Display PC Board ..... | 1 |
| 9 | 053-0454-00 | Display Gasket ..... | 1 |
| 10 | 061-0272-01 | **M11** Display Overlay ..... | 1 |
| | 061-0531-00 | **M11D** Display Overlay ..... | 1 |
| | 061-0272-00 | M11 Display Overlay (metric) ..... | 1 |
| | 061-0272-02 | M11 Display Overlay (French ) ..... | 1 |
| 11 | | Harness - PCB/Printer (Refer to "Printer Components" Elsewhere) ..... | 1 |
| 12 | 015-1096-00 | Flat Cable EMI Suppression Core (Used On Certain Export Units) ..... | 1 |
| 13 | 053-0389-01 | Printer Harness Clip ..... | 1 |
| 14 | 040-0010-46 | Screw ..... | 1 |
| 15 | 015-0657-00 | PCB/Heater Harness ..... | 1 |
| 16 | | Switch Assembly (Refer to "Pressure Vessel Components" Elsewhere) ..... | Ref |
| 17 | | Control PC Board (Refer to "Control PC Board" Elsewhere) ..... | Ref |
| 18 | 015-0257-02 | Flex Guard Tubing ..... | 1 |
| 19 | 015-0654-00 | Chamber Level Sensor Harness ..... | 1 |
| 20 | 040-0010-74 | Screw ..... | 2 |
| 21 | 053-0455-00 | Insulator ..... | 1 |
| 22 | 053-0295-01 | Standoff ..... | 3 |
| 23 | 041-0010-04 | Locknut ..... | 2 |
| 24 | | Temperature Probe Assembly (Refer to "Plumbing & Sensor Components Elsewhere) ..... | Ref |
| 25 | H98137 | Gasket ..... | 2 |
| 26 | 002-0505-00 | Heat Element-{120V} (Incl. Gaskets) ..... | 1 |
| | 002-0505-01 | Heat Element-{230V} (Incl. Gaskets) ..... | 1 |
| 27 | H97971 | Washer ..... | 2 |
| 28 | 045-0001-56 | Lockwasher ..... | 2 |
| 29 | | Nut (Included with Item 26) ..... | 2 |
| 30 | 050-3503-00 | Thermostat Bracket ..... | 1 |
| 31 | 050-3340-00 | Heater Bracket ..... | 1 |
| 32 | 041-0250-18 | Nut ..... | 1 |

**Always Specify Model & Serial Number**

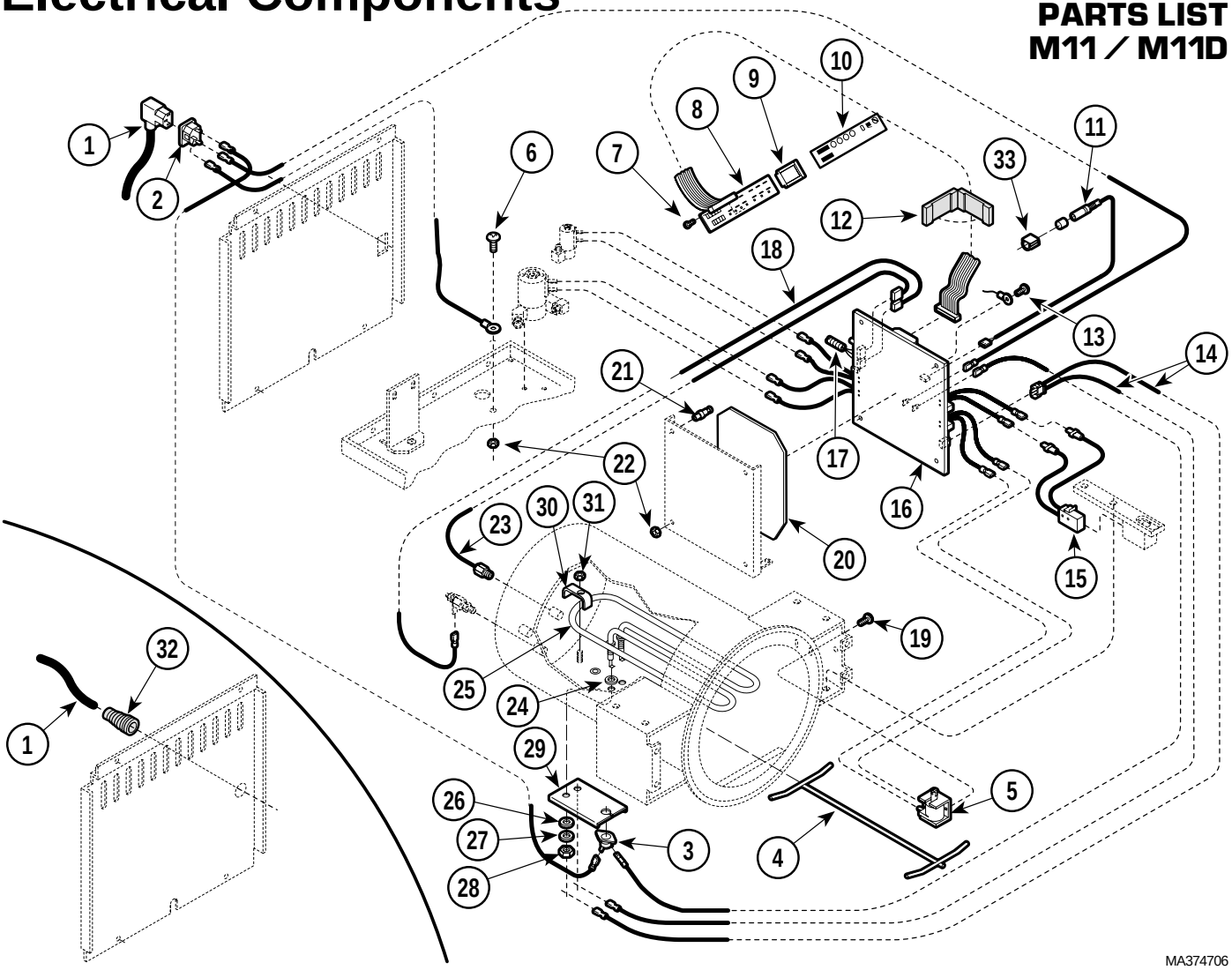
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Electrical Components






MA374706

**Used on units with Serial Numbers:**

**ES3021 thru ES7392 ET3318 thru ET10311 FP1000 thru FP1143**
**FR1000 thru FR1356 GB1000 thru GB1128**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | | Cordset (Refer to W/D in Section 5) | Ref |
| 2 | 015-0639-00 | AC Receptacle (230V. Units Only) | 1 |
| 3 | 002-0370-00 | Thermostat | 1 |
| 4 | 057-0426-00 | Spacer Assembly | 1 |
| 5 | 002-0363-03 | Solenoid-{120V} | 1 |
| | 002-0363-04 | Solenoid-{230V} | 1 |
| 6 | 040-0010-75 | Screw | 1 |
| 7 | 040-0006-04 | Screw (Apply Loctite #042-0024-00) | 6 |
| 8 | 002-0369-02 | Display PC Board | 1 |
| 9 | 053-0454-00 | Display Gasket | 1 |
| 10 | 061-0272-01 | M11 Display Overlay | 1 |
| | 061-0272-00 | M11 Display Overlay (metric) | 1 |
| | 061-0272-02 | M11 Display Overlay (French) | 1 |
| 11 | | Harness - PCB/Printer (Refer to "Printer Components" Elsewhere) | 1 |
| 12 | 015-1096-00 | Flat Cable EMI Suppression Core (Used On Certain Export Units) | 1 |
| 13 | 040-0010-46 | Screw | 1 |
| 14 | 015-0657-00 | PCB/Heater Harness | 1 |
| 15 | | Switch Assembly (Refer to "Pressure Vessel Components" Elsewhere) | Ref |
| 16 | | Control PC Board (Refer to "Control PC Board" Elsewhere) | Ref |
| 17 | 015-0257-02 | Flex Guard Tubing | 1 |
| 18 | 015-0654-00 | Chamber Level Sensor Harness | 1 |
| 19 | 040-0010-74 | Screw | 2 |
| 20 | 053-0455-00 | Insulator | 1 |
| 21 | 053-0295-01 | Standoff | 3 |
| 22 | 041-0010-04 | Locknut | 2 |
| 23 | | Temperature Probe Assembly (Refer to "Plumbing & Sensor Components Elsewhere) | Ref |
| 24 | H98137 | Gasket | 2 |
| 25 | 002-0505-00 | Heat Element-{120V} (Incl. Gaskets) | 1 |
| | 002-0505-01 | Heat Element-{230V} (Incl. Gaskets) | 1 |
| 26 | H97971 | Washer | 2 |
| 27 | 045-0001-56 | Lockwasher | 2 |
| 28 | | Nut (Included with Item 26) | 2 |
| 29 | 050-3503-00 | Thermostat Bracket | 1 |
| 30 | 050-3340-00 | Heater Bracket | 1 |
| 31 | 041-0250-18 | Nut | 1 |
| 32 | 015-1137-00 | Strain Relif Bushing (120V. Units Only) | 1 |
| 33 | 053-0389-01 | Printer Harness Clip | 1 |

**Always Specify Model & Serial Number**

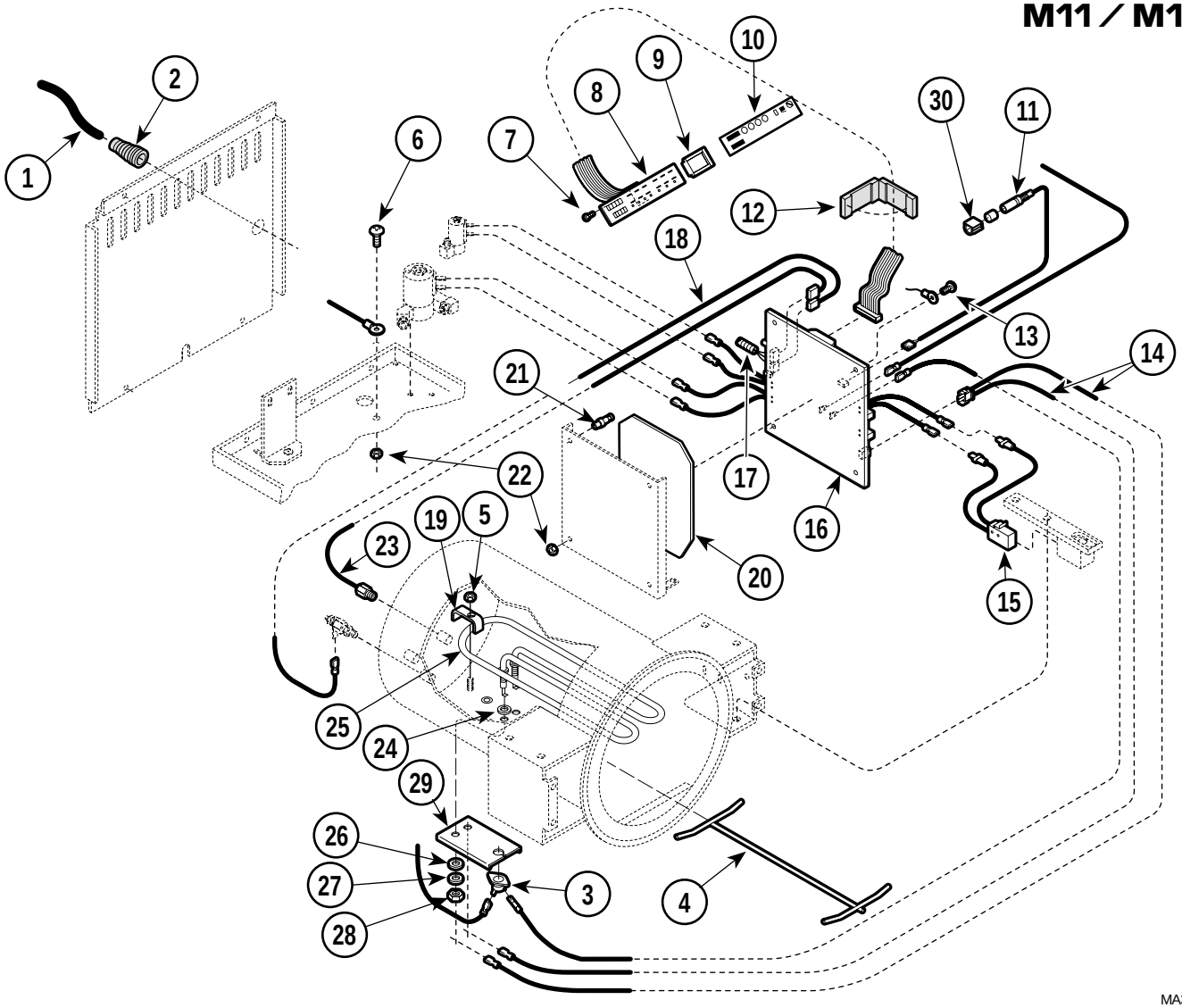
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Electrical Components






MA374707

## Used on Units with Serial Numbers:
## GC1019 thru GC1155 GD1016 thru GD1192

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | | Cordset (Refer to "Wiring Diagrams" in Section 5) | Ref |
| 2 | 015-1137-00 | Strain Relif Bushing | 1 |
| 3 | 002-0370-00 | Thermostat | 1 |
| 4 | 057-0426-00 | Spacer Assembly | 1 |
| 5 | 041-0250-18 | Nut | 1 |
| 6 | 040-0010-75 | Screw | 1 |
| 7 | 040-0006-04 | Screw (Apply Loctite #042-0024-00) | 6 |
| 8 | 002-0369-02 | Display PC Board | 1 |
| 9 | 053-0454-00 | Display Gasket | 1 |
| 10 | 061-0531-00 | Display Overlay | 1 |
| 11 | | Harness - PCB/Printer (Refer to "Printer Components" Elsewhere) | 1 |
| 12 | 015-1096-00 | Flat Cable EMI Suppression Core (Used On Certain Export Units) | 1 |
| 13 | 040-0010-46 | Screw | 1 |
| 14 | 015-0657-00 | PCB/Heater Harness | 1 |
| 15 | | Switch Assembly (Refer to "Pressure Vessel Components" Elsewhere) | Ref |
| 16 | | Control PC Board (Refer to "Control PC Board" Elsewhere) | Ref |
| 17 | 015-1395-00 | Flex Guard Tubing | 1 |
| 18 | 015-0654-00 | Chamber Level Sensor Harness | 1 |
| 19 | 050-3340-00 | Heater Bracket | 1 |
| 20 | 053-0455-00 | Insulator | 1 |
| 21 | 053-0295-01 | Standoff | 3 |
| 22 | 041-0010-04 | Locknut | 2 |
| 23 | | Temperature Probe Assembly (Refer to "Plumbing & Sensor Components Elsewhere) | Ref |
| 24 | H98137 | Gasket | 2 |
| 25 | 002-0505-00 | Heat Element (Includes Gaskets) | 1 |
| 26 | H97971 | Washer | 2 |
| 27 | 045-0001-56 | Lockwasher | 2 |
| 28 | | Nut (Included with Item 26) | 2 |
| 29 | 050-3503-00 | Thermostat Bracket | 1 |
| 30 | 053-0389-01 | Printer Harness Clip | 1 |

**Always Specify Model & Serial Number**

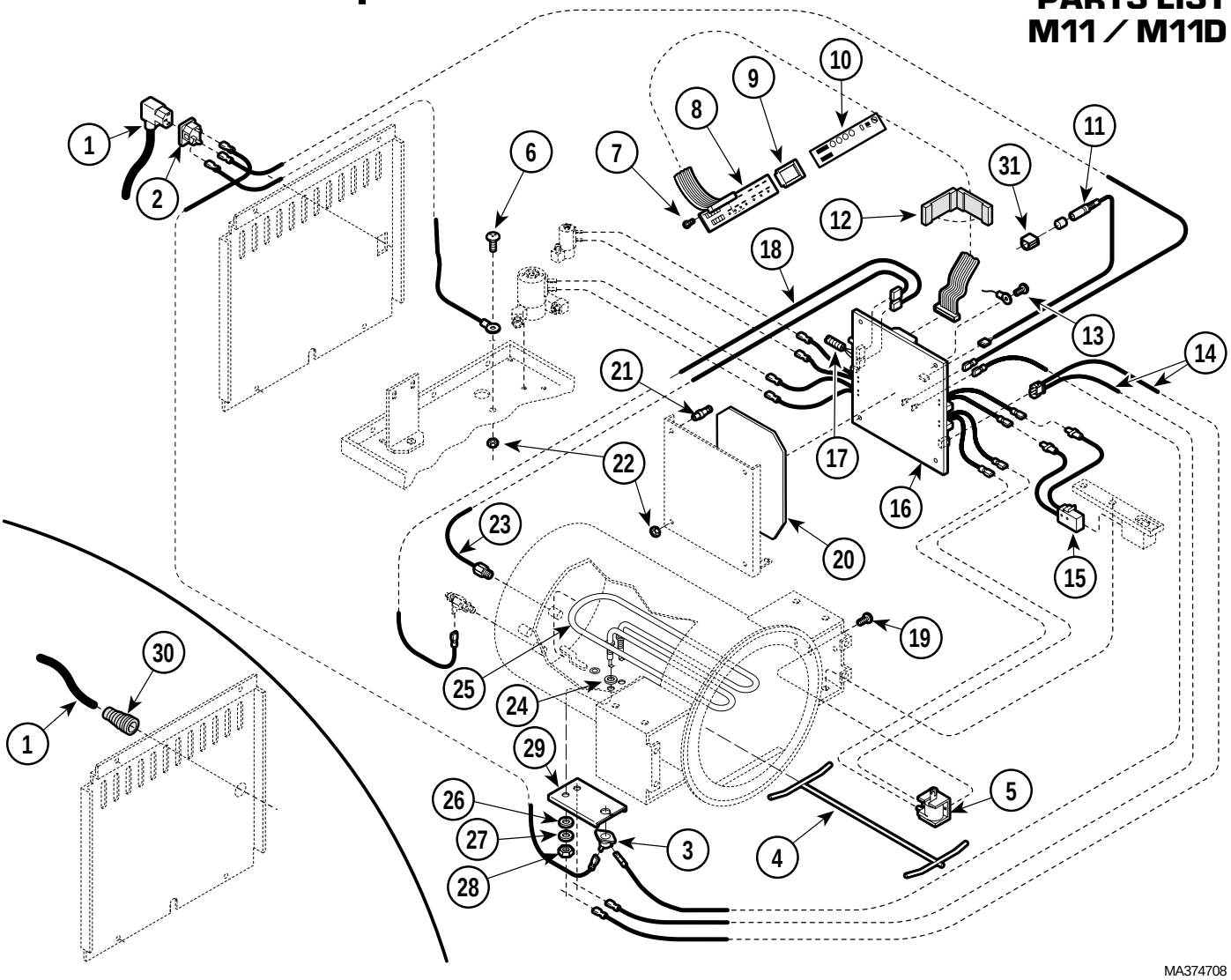
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Electrical Components






MA374708

## Used on units with Serial Numbers:

**ES7393, ET10312, FP1144, FR1357, GB1129, GC1156, GD1193, NP1000 - thru present**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | | Cordset (Refer to W/D in Section 5) | Ref |
| 2 | 015-0639-00 | AC Receptacle (230V. Units Only) | 1 |
| 3 | 002-0370-00 | Thermostat | 1 |
| 4 | 057-0426-00 | Spacer Assembly | 1 |
| 5 | 002-0363-03 | Solenoid-{120V} (M11 only) | 1 |
| | 002-0363-04 | Solenoid-{230V} (M11 only) | 1 |
| 6 | 040-0010-75 | Screw | 1 |
| 7 | 040-0006-04 | Screw (Apply Loctite #042-0024-00) | 6 |
| 8 | 002-0369-02 | Display PC Board | 1 |
| 9 | 053-0454-00 | Display Gasket | 1 |
| 10 | 061-0272-01 | **M11** Display Overlay | 1 |
| | 061-0531-00 | **M11D** Display Overlay | 1 |
| | 061-0272-00 | M11 Display Overlay (metric) | 1 |
| | 061-0272-02 | M11 Display Overlay (French) | 1 |
| 11 | | Harness - PCB/Printer (Refer to "Printer Components" Elsewhere) | 1 |
| 12 | 015-1096-00 | Flat Cable EMI Suppression Core (Used On Certain Export Units) | 1 |
| 13 | 040-0010-46 | Screw | 1 |
| 14 | 015-0657-00 | PCB/Heater Harness | 1 |
| 15 | | Switch Assembly (Refer to "Pressure Vessel Components" Elsewhere) | Ref |
| 16 | | Control PC Board (Refer to "Control PC Board" Elsewhere) | Ref |
| 17 | 015-0257-02 | Flex Guard Tubing | 1 |
| 18 | 015-0654-00 | Chamber Level Sensor Harness | 1 |
| 19 | 040-0010-74 | Screw (M11 only) | 2 |
| 20 | 053-0455-00 | Insulator | 1 |
| 21 | 053-0295-01 | Standoff | 3 |
| 22 | 041-0010-04 | Locknut | 2 |
| 23 | | Temperature Probe Assembly (Refer to "Plumbing & Sensor Components Elsewhere) | Ref |
| 24 | H98137 | Gasket | 2 |
| 25 | 002-0505-00 | Heat Element-{120V} (Incl. Gaskets) | 1 |
| | 002-0505-01 | Heat Element-{230V} (Incl. Gaskets) | 1 |
| 26 | H97971 | Washer | 2 |
| 27 | 045-0001-56 | Lockwasher | 2 |
| 28 | | Nut (Included with Item 26) | 2 |
| 29 | 050-3503-00 | Thermostat Bracket | 1 |
| 30 | 015-1137-00 | Strain Relif Bushing (120V. Units Only) | 1 |
| 31 | 053-0389-01 | Printer Harness Clip | 1 |

**Always Specify Model & Serial Number**

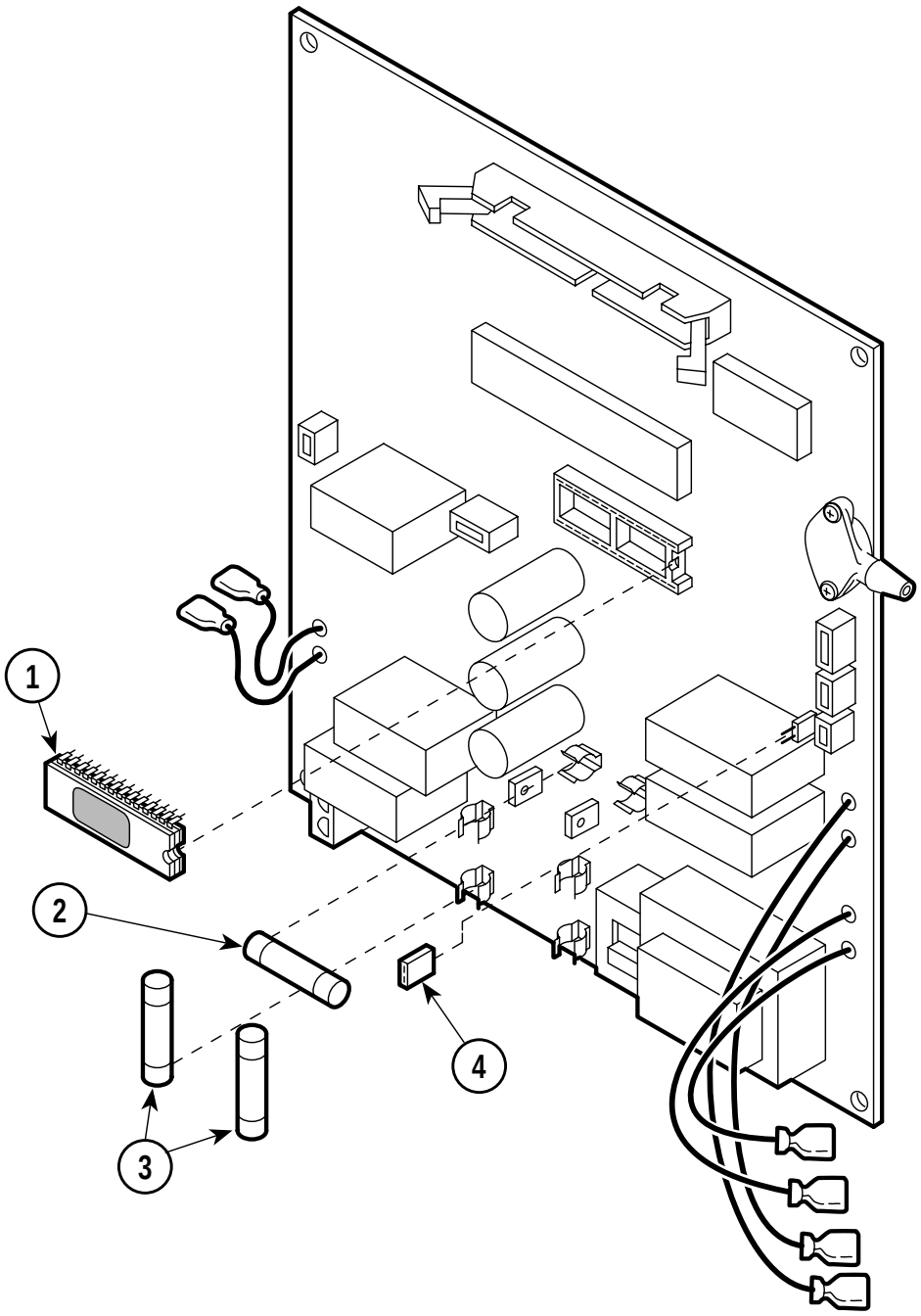
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# M11 Control PC Board






MA222001

**Used on Units with Serial Numbers**
**ES1000 thru ES1346 ET1000 thru ET1094**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| | 002-0501-00 | Control PC Board - 115 V (Includes Items 1thru 3) {***Old Board Replaced By New Board***) | 1 |
| 1 | • | • M11 EPROM | Ref. |
| 2 | • 015-0346-08 | • Printer Fuse (3 amp/250 V) | 1 |
| 3 | • 015-0346-07 | • Line Fuse (15 amp/250 V) {Used on 115 V Units Only} | 2 |
| 4 | • | • 2 Position Jumper | Ref |

**Always Specify Model & Serial Number**

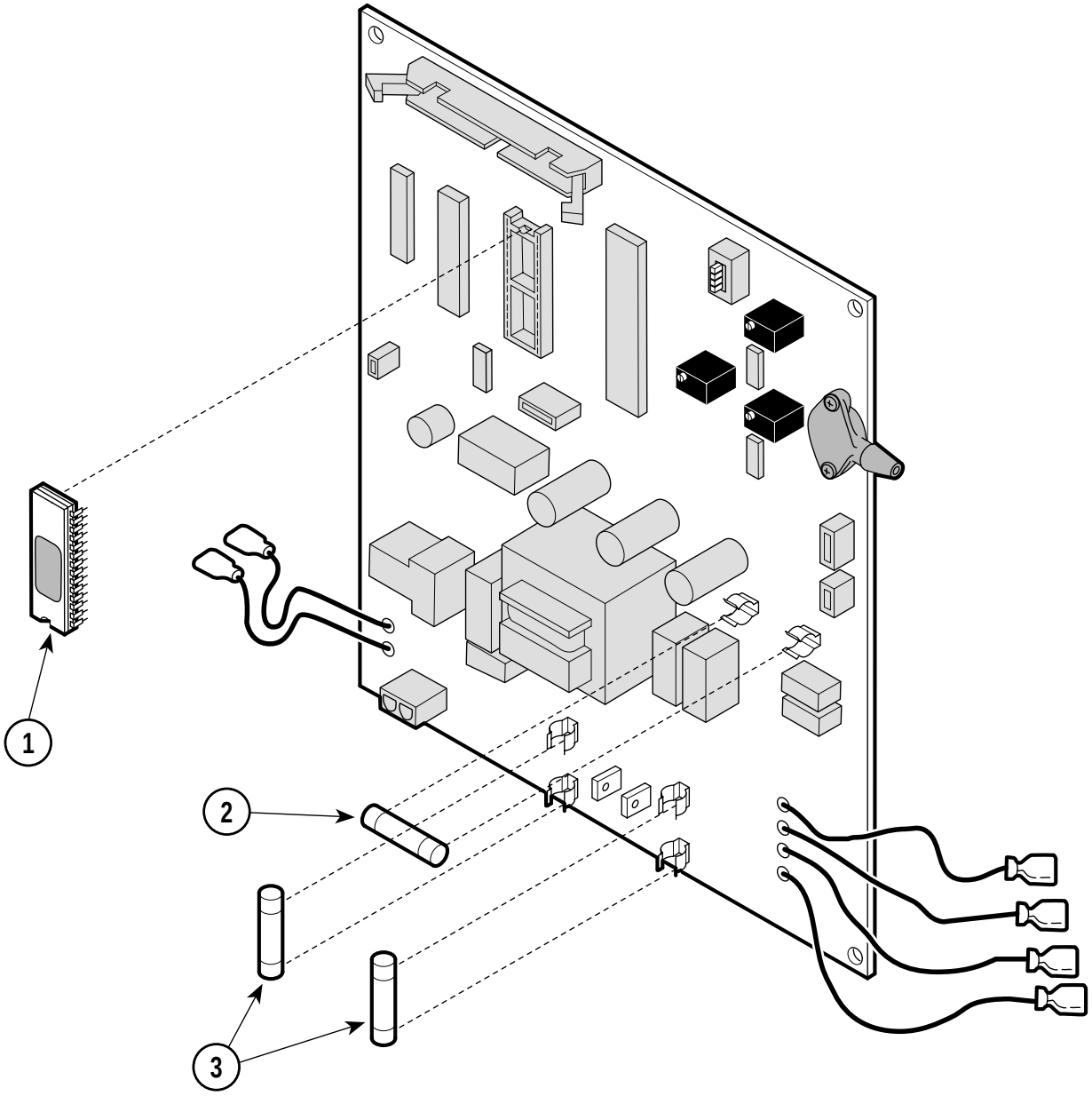
© Midmark Corporation 2002 SF-1827 Rev 5/03



Printed in U.S.A.

# M11 Control PC Board






MA281100

## Used on Units with Serial Numbers: GB1000 thru GB1109

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| | 002-0501-01 | M11 Control PC Board {230 V Domestic} (Includes Item 1thru 3) | 1 |
| 1 | • | • M11 EPROM | Ref. |
| 2 | • 015-0346-08 | • Printer Fuse (3 amp/250 V) | 1 |
| 3 | • 015-0346-07 | • Line Fuse (15 amp/250 V) {Used on 115 V Units Only} | 2 |
| | • 015-0346-11 | • Line Fuse (8 amp/250 V) {Used on 230 V Units Only} | 2 |

**Always Specify Model & Serial Number**

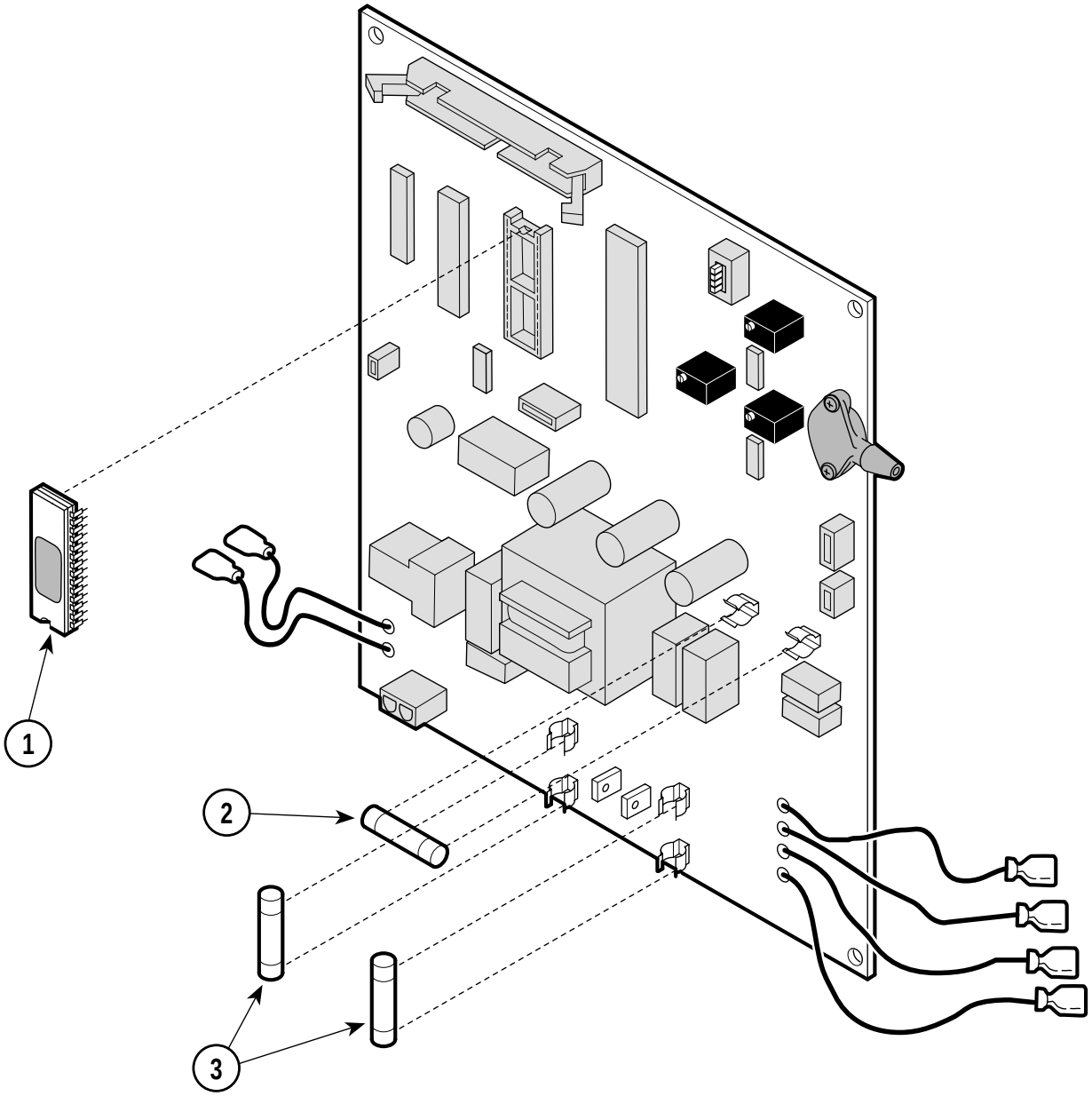
© Midmark Corporation 2002 SF-1827 Rev. 5/03



Printed in U.S.A.

# M11 Control PC Board






MA281100

**Used on Units with Serial Numbers:**
**ES1347, ET1095, FP1000, FR1000, GB1110, NP1000 - thru present**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| | 002-0501-00 | M11 Control PC Board {115 V Domestic} (Includes Item 1thru 3)[Used on Serial Number Prefix "ES & ET"] | 1 |
| | 002-0501-01 | M11 Control PC Board {230 V Domestic} (Includes Item 1thru 3) [Used on Serial Number Prefix "FP & FR"] | 1 |
| | 002-0501-03 | M11 Control PC Board {230 V Domestic} (Includes Item 1thru 3) [Used on Serial Number Prefix "GB & NP"] | 1 |
| 1 | • | • M11 EPROM | Ref. |
| 2 | • 015-0346-08 | • Printer Fuse (3 amp/250 V) | 1 |
| 3 | • 015-0346-07 | • Line Fuse (15 amp/250 V) {Used on 115 V Units Only} | 2 |
| | • 015-0346-11 | • Line Fuse (8 amp/250 V) {Used on 230 V Units Only} | 2 |

**Always Specify Model & Serial Number**

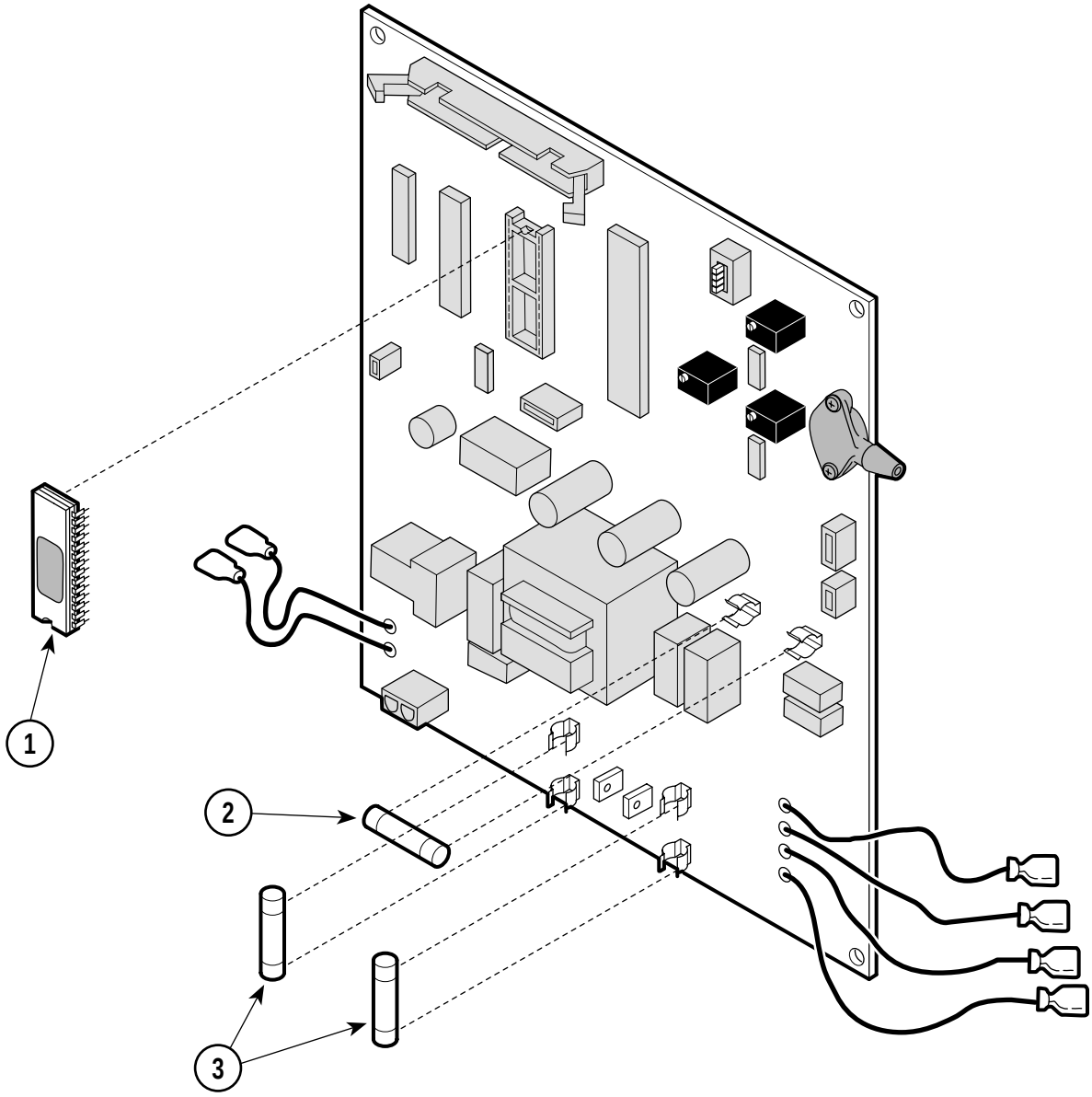
© Midmark Corporation 2002 SF-1827 Rev. 5/03



Printed in U.S.A.

# M11D Control PC Board






| Item | Part No. | Description | Qty. | Item | Part No. | Description | Qty. |
|---|---|---|---|---|---|---|---|
| | 002-0501-02 | M11D Control PC Board {115 V Domestic} (Includes Item 1thru 3) | 1 | 3 | • 015-0346-07 | • Line Fuse (15 amp/250 V) {Used on 115 V Units Only} | 2 |
| 1 | • | • M11 EPROM | Ref. | | • 015-0346-11 | • Line Fuse (8 amp/250 V) {Used on 230 V Units Only} | 2 |
| 2 | • 015-0346-08 | • Printer Fuse (3 amp/250 V) | 1 | | | | |

**Always Specify Model & Serial Number**

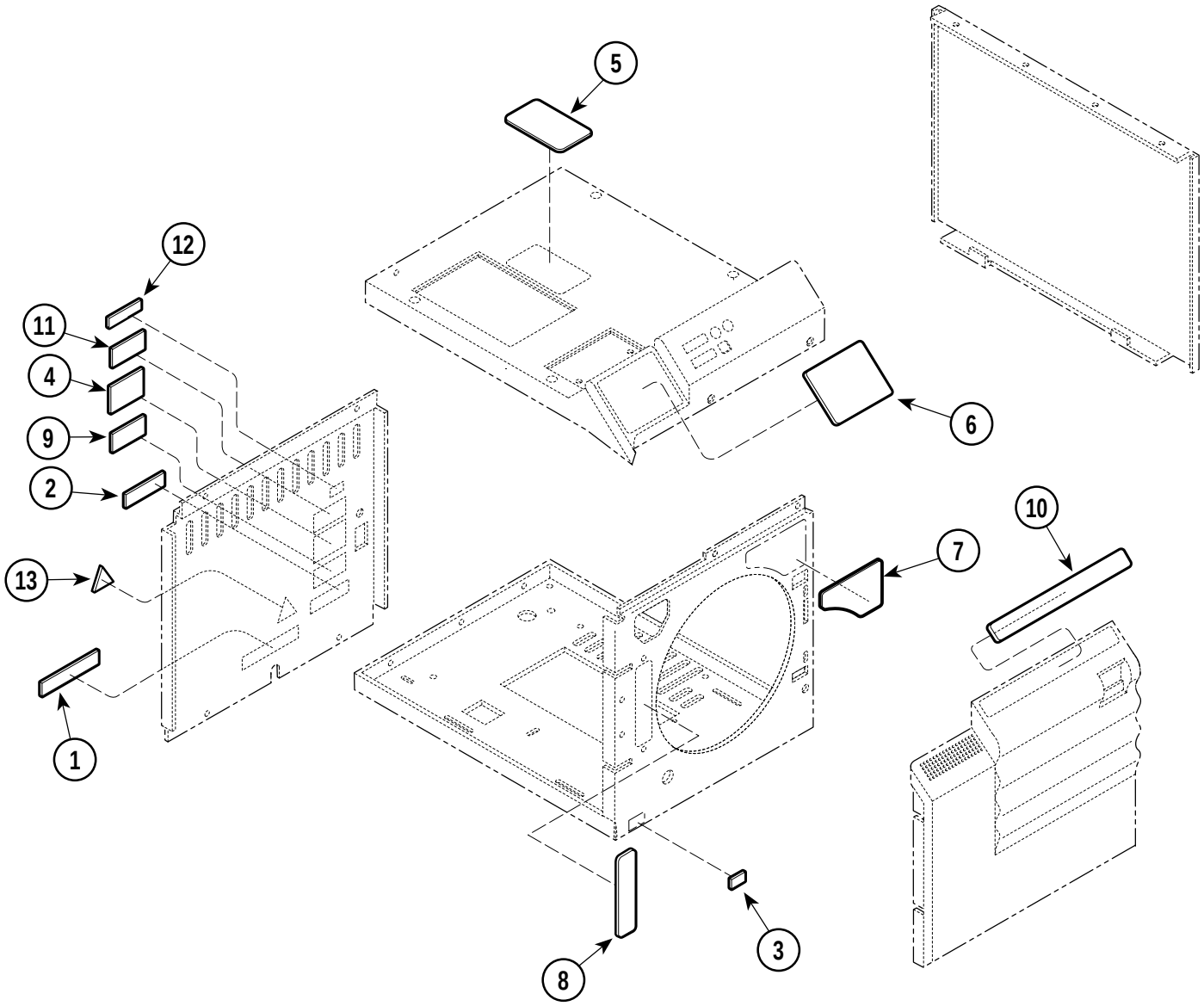
© Midmark Corporation 2002 SF-1827 Rev 5/03



Printed in U.S.A.

# M11 Labels and Decals






MA202512

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 061-0203-00 | Electrical Shock Label (English) | 1 |
| | 061-0516-00 | Electrical Shock Label (French) | 1 |
| 2 | 061-0477-00 | Patent Label | 1 |
| 3 | | Serial Number Label (Front) | 1 |
| 4 | | Serial Number Label (Rear) | 1 |
| 5 | 061-0309-00 | M11 Warning Label P.R. Valve(English) | 1 |
| | 061-0514-00 | M11 Warning Label P.R. Valve(French) | 1 |
| 6 | 061-0381-00 | M11 Warning Label (English) | 1 |
| | 061-0512-00 | M11 Warning Label (French) | 1 |
| 7 | 061-0726-00 | Hot Surface Label | 1 |
| | 061-0515-00 | Caution / Hot Label (French) | 1 |
| 8 | 061-0311-00 | Water Level Label | 1 |
| 9 | 061-0624-00 | UL/CUL 507U Label (Used on select units only) | 1 |
| 10 | 061-0441-00 | M11 Operation Label (English) | 1 |
| | 061-0513-00 | M11 Operation Label (French) | 1 |
| 11 | 061-0782-00 | CE Representative Label (Used on select units only) | 1 |
| 12 | 061-0733-00 | Label - C.E. | 1 |
| 13 | 061-0654-00 | Caution Label | 1 |
| 14 | 004-0068-00 | Laminated Instruction Sheet (Not Shown) | 1 |
| 15 | 004-0254-00 | Quick Reference Sheet (Not Shown) | 1 |

**Always Specify Model & Serial Number**

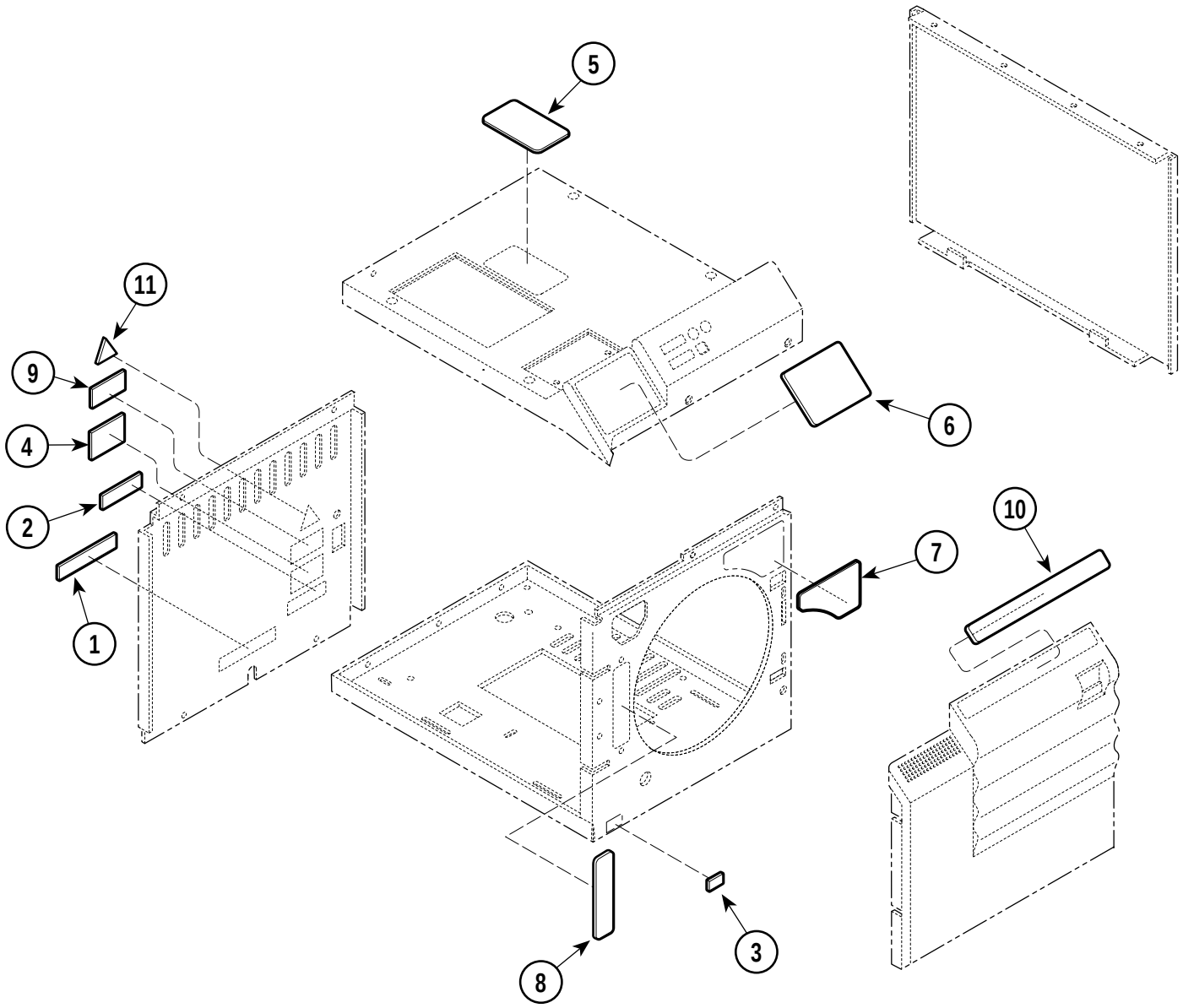
© Midmark Corporation 2002 SF-1827 Rev. 3/03



Printed in U.S.A.

# M11D Labels and Decals






MA202511

| Item | Part No. | Description | Qty. | Item | Part No. | Description | Qty. |
|---|---|---|---|---|---|---|---|
| 1 | 061-0203-00 | Electrical Shock Label | 1 | 8 | 061-0311-00 | Water Level Label | 1 |
| 2 | 061-0477-00 | Patent Label | 1 | 9 | 061-0624-00 | UL/CUL 507U Label | 1 |
| 3 | | Serial Number Label (Front) | 1 | 10 | 061-0533-00 | Operation Label | 1 |
| 4 | | Serial Number Label (Rear) | 1 | 11 | 061-0654-00 | Caution Label | 1 |
| 5 | 061-0309-01 | Warning Label P.R. Valve | 1 | 12 | 004-0068-00 | Laminated Instruction Sheet (Not Shown) | 1 |
| 6 | 061-0532-00 | Warning Label | 1 | 13 | 004-0254-00 | Quick Reference Sheet (Not Shown) | 1 |
| 7 | 061-0726-00 | Hot Surface Label | 1 | | | | |

**Always Specify Model & Serial Number**

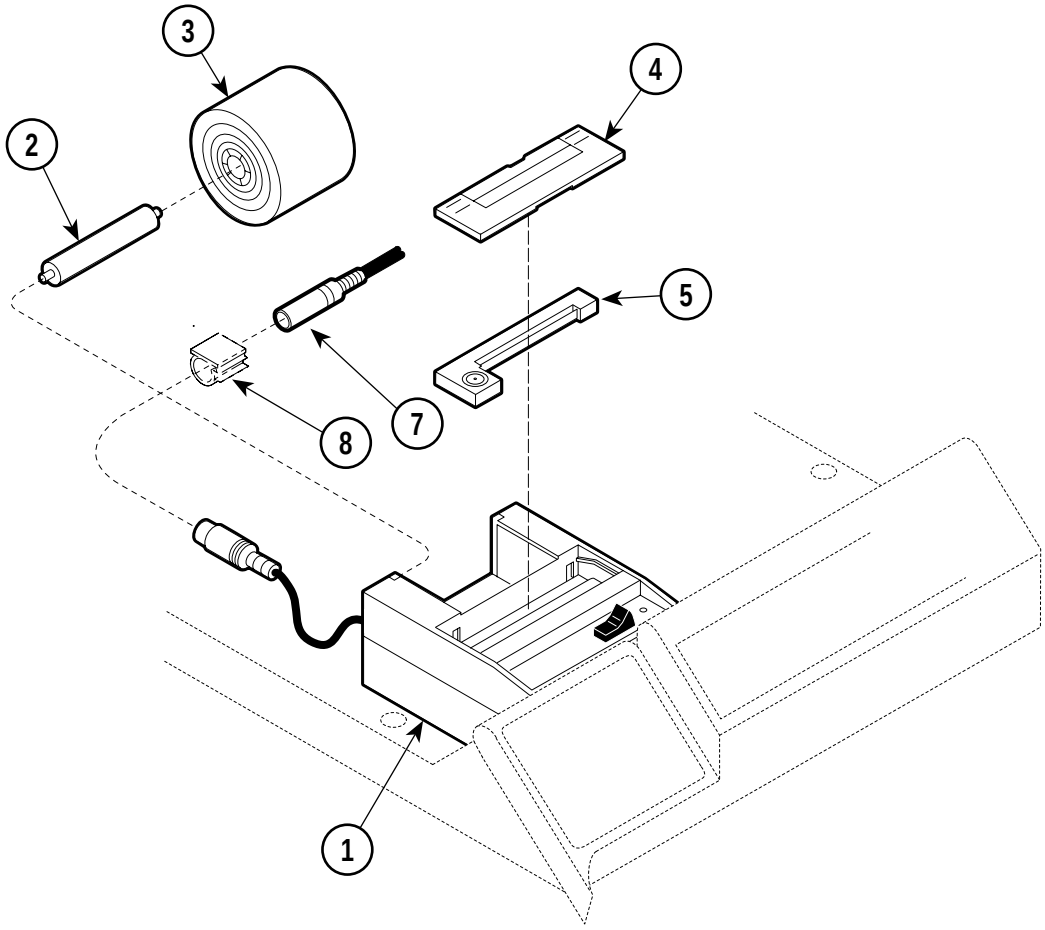
© Midmark Corporation 2002 SF-1827 Rev. 3/03



Printed in U.S.A.

# Printer Components






MA203302

| Item | Part No. | Description | Qty. | Item | Part No. | Description | Qty. |
|---|---|---|---|---|---|---|---|
| 1 | 9A155001 | Accessory Printer (Incl. Items 2 thru 7) . | 1 | 6 | • 002-0371-00 | • Cartridge/Paper Kit (Includes Two Rolls of Paper and One Cartridge ..... | 1 |
| 2 | • 053-0506-00 | • Arbor ..... | 1 | | | | |
| 3 | • 060-0008-00 | • Paper Roll ..... | 1 | 7 | • 015-0978-00 | • Printer Wiring Harness ..... | 1 |
| 4 | • 053-0507-00 | • Cover ..... | 1 | 8 | • 053-0389-01 | • Printer Harness Clip ..... | 1 |
| 5 | • 053-0505-00 | • Printer Cartridge ..... | 1 | | | | |

**Always Specify Model & Serial Number**

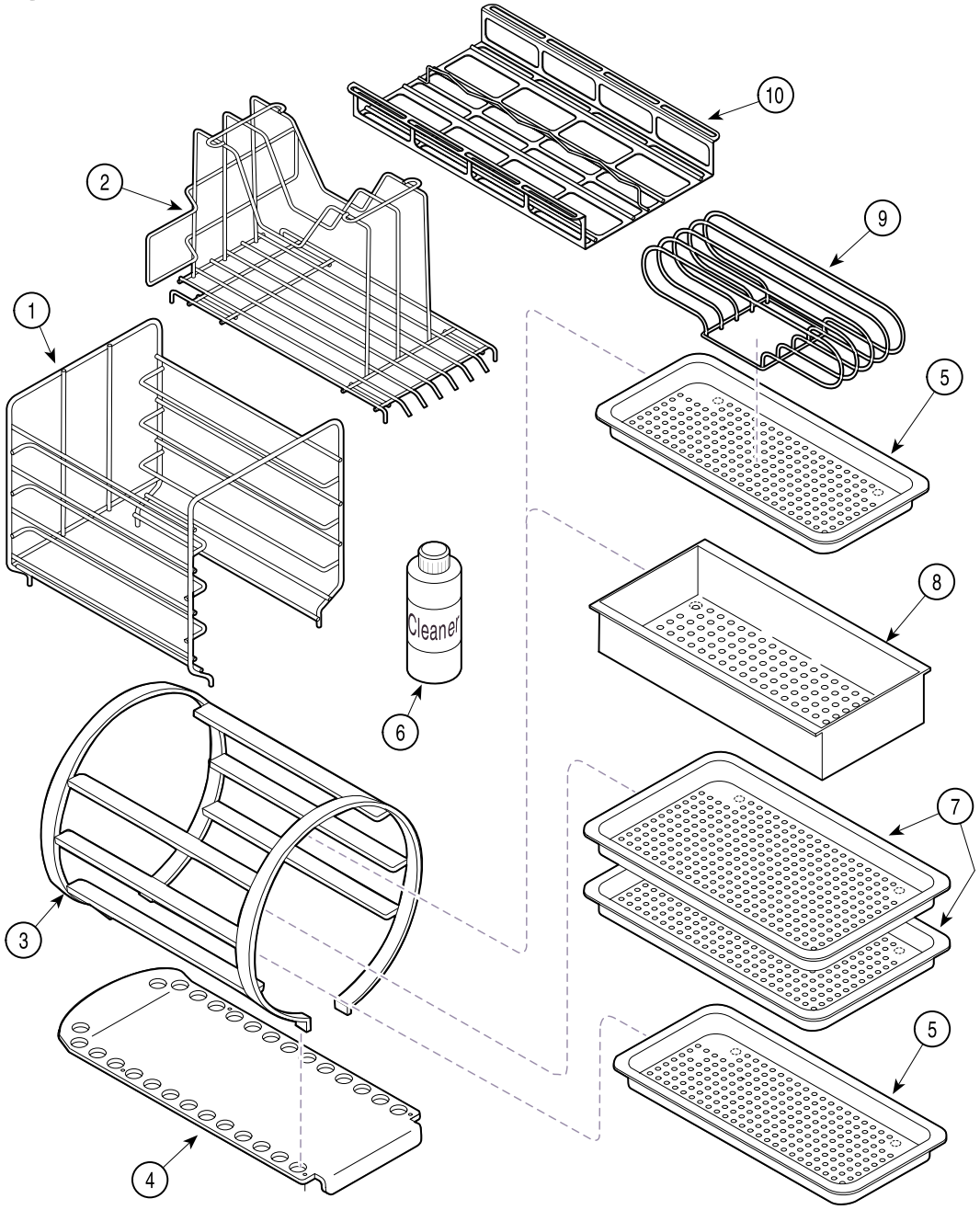
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Racks, Trays, and Cleaner






MA203205

**Used on units with Serial Numbers:**

**ES1000 thru ES5001 ET1000 thru ET6434 FP1000 thru FP1073 FR1000 thru FR1204**
**GB1000 thru GB1109 GC1000 thru GC1074 GD1000 thru GD1068**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 9A215001 | M11 Horizontal Cassette Rack Acces. .. | 1 |
| 2 | 9A215002 | M11 Vertical Cassette Rack Acces. ..... | 1 |
| 3 | 050-3920-00 | Wire Tray Rack ..... | 1 |
| 4 | 050-3919-00 | Tray Plate ..... | 1 |
| 5 | 050-2644-00 | Small Tray ..... | 2 |
| 6 | 002-0269-00 | Sterilizer Cleaner-Ritter (Single Bottle with M.S.D.Sheet) ..... | AR |
| | 002-0269-01 | Sterilizer Cleaner-Ritter (12 Bottle Case with M.S.D.Sheet) ..... | AR |
| | 002-0396-00 | Sterilizer Cleaner-Midmark (Single Bottle with M.S.D.Sheet) ..... | AR |
| | 002-0396-01 | Sterilizer Cleaner-Midmark (12 Bottle Case with M.S.D.Sheet) ..... | AR |
| 7 | 050-2643-00 | Large Tray ..... | 2 |
| 8 | 9A225001 | Sterilizer Deep Tray ..... | 1 |
| 9 | 9A226001 | Sterilizer Pouch Rack ..... | 1 |
| 10 | 9A306001 | Large Casette Tray ..... | 1 |

**Always Specify Model & Serial Number**

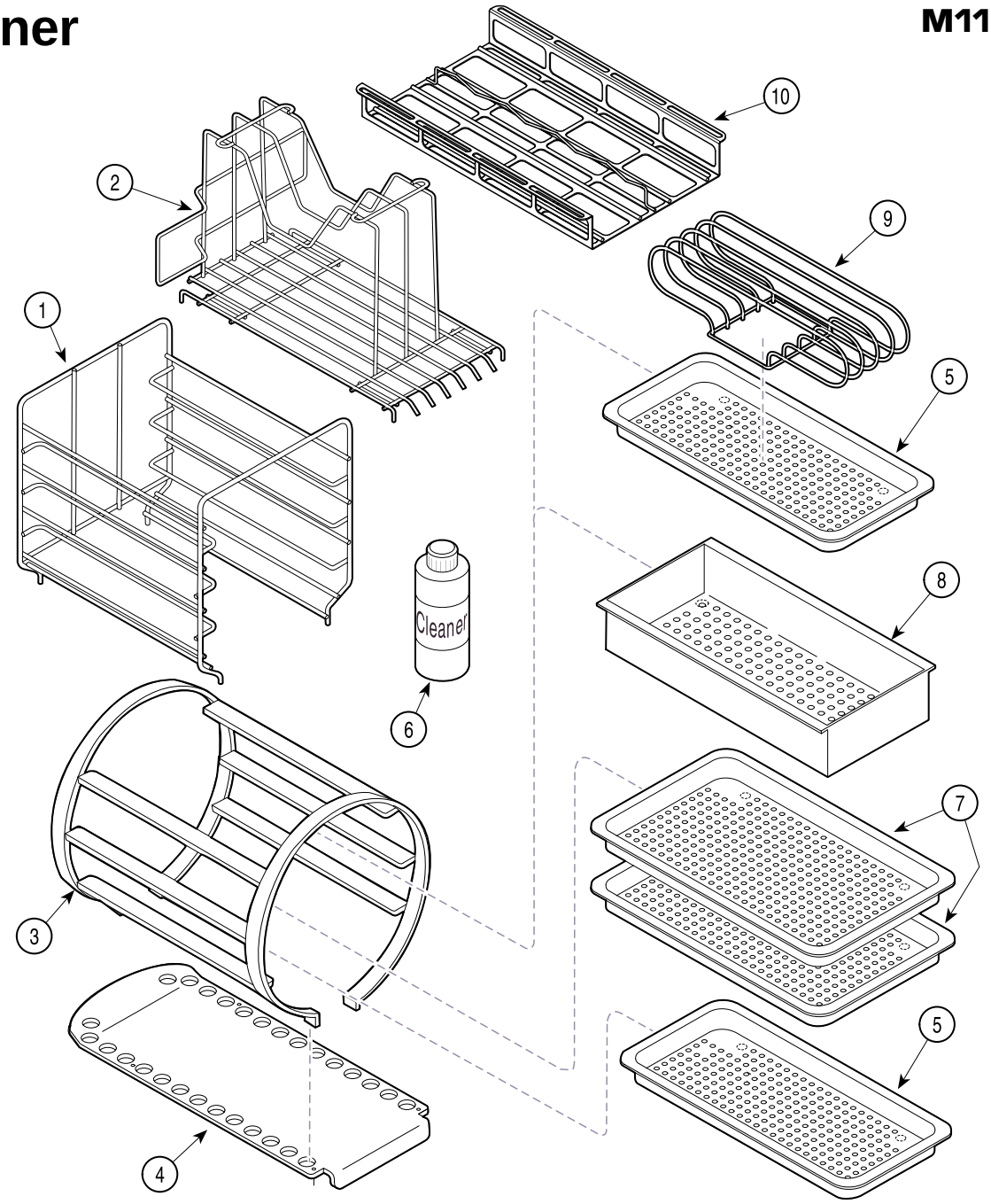
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Racks, Trays, and Cleaner






**Used on units with Serial Numbers:**
**ES5002, ET6435, FP1074, FR1205, GB1110, GC1075, GD1069 - thru present**

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 9A215001 | M11 Horizontal Cassette Rack Acces. .. | 1 |
| 2 | 9A215002 | M11 Vertical Cassette Rack Acces. ..... | 1 |
| 3 | 050-3920-00 | Wire Tray Rack ..... | 1 |
| 4 | 050-3919-00 | Tray Plate ..... | 1 |
| 5 | 050-4260-00 | Small Tray ..... | 2 |
| 6 | 002-0269-00 | Sterilizer Cleaner-Ritter (Single Bottle with M.S.D.Sheet) ..... | AR |
| | 002-0269-01 | Sterilizer Cleaner-Ritter (12 Bottle Case with M.S.D.Sheet) ..... | AR |
| | 002-0396-00 | Sterilizer Cleaner-Midmark (Single Bottle with M.S.D.Sheet) ..... | AR |
| | 002-0396-01 | Sterilizer Cleaner-Midmark (12 Bottle Case with M.S.D.Sheet) ..... | AR |
| 7 | 050-4259-00 | Large Tray ..... | 2 |
| 8 | 9A225001 | Sterilizer Deep Tray ..... | 1 |
| 9 | 9A226001 | Sterilizer Pouch Rack ..... | 1 |
| 10 | 9A306001 | Large Casette Tray ..... | 1 |

**Always Specify Model & Serial Number**

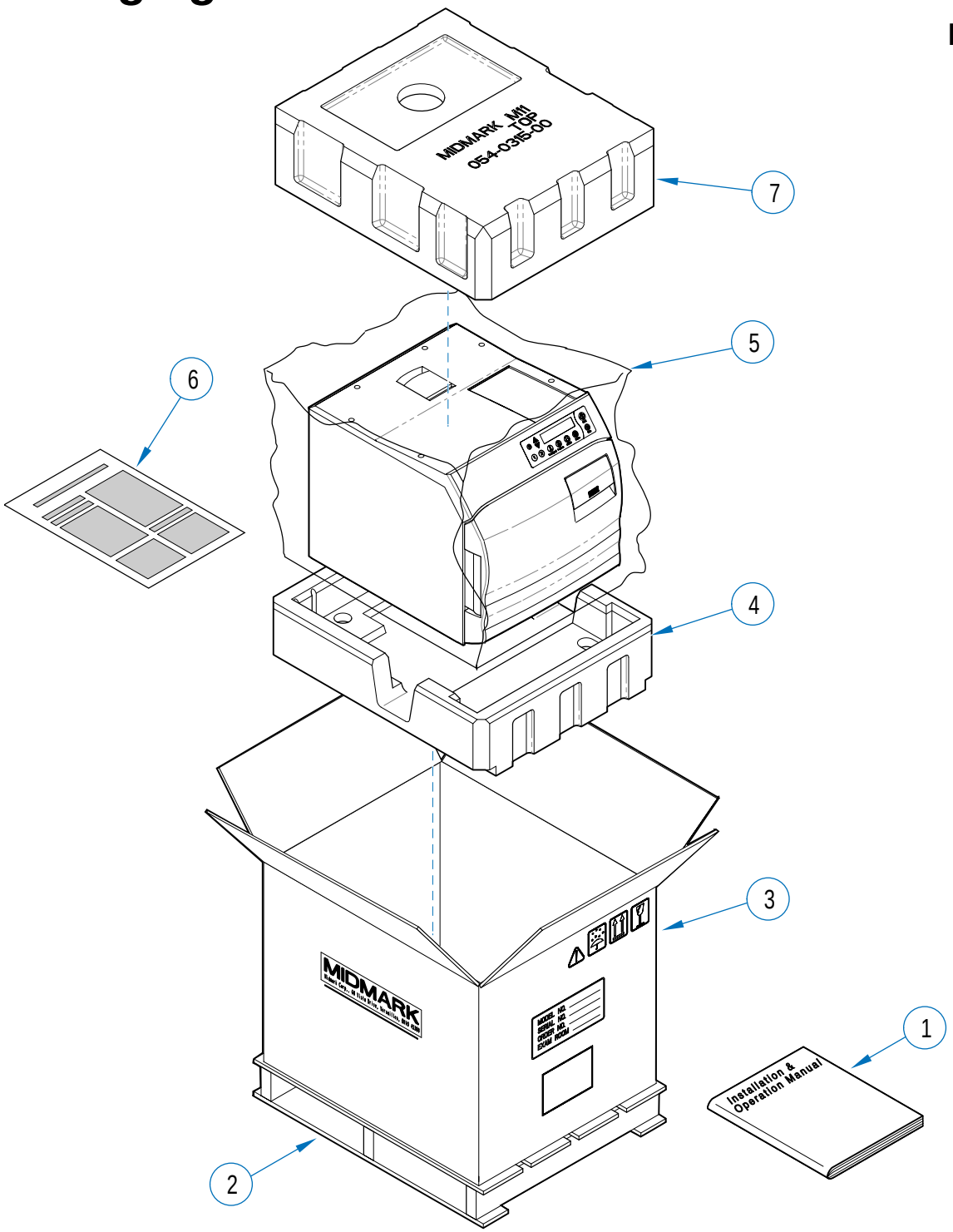
© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

# Packaging






MA202405

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 003-1030-00 | M11 Installation & Operation Manual | 1 |
| | 003-1032-00 | M11D Installation & Operation Manual | 1 |
| 2 | 063-9983-00 | Skid | 1 |
| 3 | 066-0844-00 | Cardboard Box | 1 |
| 4 | 054-0317-00 | Bottom Pad (includes item 7) | 1 |
| 5 | 053-0061-01 | Poly Bag | 1 |
| 6 | 077-0033-00 | Speed Clean Material Data Safety Sheet | 1 |
| 7 | 054-0317-00 | Top Pad (includes item 4) | 1 |
| 8a | 061-0719-00 | Label, Midmark (Not Shown) | 2 |
| 8b | 061-0719-01 | Label, Ritter (Not Shown) | 2 |
| 8c | 061-0719-02 | Label, EMS (Not Shown) | 2 |
| | 002-0531-00 | Packaging Kit - Ritter (incl. items 2,3,4,5,6,7, 8b) | Ref |
| | 002-0531-01 | Packaging Kit - Midmark (incl. items 2,3,4,5,6,7, 8a) | Ref |

**Always Specify Model & Serial Number**

© Midmark Corporation 2002 SF-1827



Printed in U.S.A.

This page intentionally left blank.

Return To Table Of Contents

# COMMENTS

The Technical Publications Department of Midmark Corporation takes pride in its publications. We are sure that our manuals will fill all of your needs when you are performing scheduled maintenance, servicing, or repairs on a Midmark product.

However, if you find any errors or feel that there should be a change, addition, or deletion to a manual, please let us know!

**Page(s) and Paragraph(s) Needing Changed:**

**Description of Error or Desired Change:**

Please fax or mail a copy of this completed comment sheet to:

Midmark Corporation
ATTN: Technical Publications Department
60 Vista Drive
Versailles, Ohio 45380
Fax: (937) 526-5542

© Midmark Corporation 2000 SF-1621

Printed in U.S.A.

Return To Table Of Contents

# FAX ORDERING FORM

**(SERVICE PARTS ONLY)**

**NOTES:**

- **ALL BLOCKED AREAS MUST BE COMPLETED.**
- **USE FOR NON-WARRANTY FAX ORDERS ONLY. WARRANTY ORDERS MUST BE TELEPHONED IN (1-800-MIDMARK).**

**ATTENTION: SERVICE DEPARTMENT FAX#: 877-249-1793**

**ACCT #:** _____ **P.O. #:** _____ **DATE:** _____

**NAME:** _____ **SHIP TO:** _____

**ADDRESS:** _____

**CITY, ST.:** _____

**CONTACT:** _____

**PHONE:** _____

☐ **NON-EMERGENCY ORDER - TO SHIP WITHIN 72 HOURS IF PART(S) IN STOCK.**

☐ **EMERGENCY ORDER - TO SHIP WITHIN 24 HOURS IF PART(S) IN STOCK (IF ORDER IS RECEIVED BEFORE 1:00 P.M. E.S.T).**

**SEND NOTIFICATION IF PARTS ARE NOT AVAILABLE TO SHIP WITHIN 24 HOURS VIA E-MAIL OR FAX TO:** _____

**METHOD OF SHIPMENT**

**OTHER** _____

| UPS | FED EX |
|---|---|
| ☐ NEXT DAY A.M. | ☐ NEXT DAY A.M. |
| ☐ NEXT DAY P.M. | ☐ NEXT DAY P.M. |
| ☐ 2ND DAY | ☐ 2ND DAY |
| ☐ GROUND | ☐ ECONOMY |

| QTY. | PART # | DESCRIPTION (SPECIFY COLOR OF ITEM IF APPLICABLE) | COLOR CODE | PRICE/PER |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

Return To Table Of Contents

Return To Table Of Contents

Midmark Corporation
60 Vista Drive
P.O. Box 286
Versailles, Ohio 45380-0286
937-526-3662
Fax 937-526-5542
midmark.com

Because we care.

Subject to change without notice.
Refer to www.Documark.com for latest revision.

© Midmark Corporation - 2005

Printed in U.S.A.